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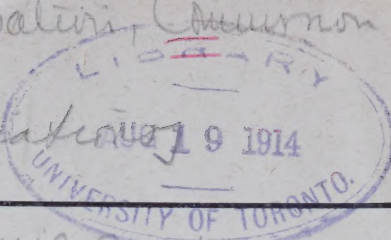


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Town planning and
Conservation of Life

ISSUED MONTHLY UNDER THE
DIRECTION OF
COMMISSION OF CONSERVATION
OF CANADA,
OTTAWA

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Conservation of Life is the newer and broader Public Health—it embraces all of the Science of Hygiene. It seeks to minimize and prevent as far as possible disease, disability and waste in human life by the betterment of man's environment and occupation, assuring to all classes of the community those amenities which in their widest sense will produce the highest attainable degree of human efficiency. It is the centre around which gather and by which all our natural resources are vitalized and without which there can be no truly national vitality.

Conservation of Life

Vol. I.

OTTAWA, AUGUST 1914

No. 1

FOREWORD

HAS it ever occurred to you that nineteen-twentieths of the things that occupy our attention, outside of the ordinary work of securing a livelihood, really do not matter at all? Do you realize that after all there are only a few things that really affect our happiness? One of these few things is the preservation of life and health. Nothing here below matters to those who are dead; nothing matters very much to those who are sick and suffering and without a prospect of regaining health. At the root of all happiness of the individual and of the nation lies the question of preservation of life and health.

A generation ago in Canada little attention was given to what is called public health. The individual was left to kill or cure himself by patent medicines and domestic remedies, varied by an occasional doctor's visit. To the prevention of disease little thought was given. No longer than twenty-five or thirty years ago epidemics of diseases were popularly spoken of as visitations of Providence and punishment for sin. It is true that these epidemics were a punishment for sin, but it was the sin of avoidable ignorance.

There has been a revolution since that time. Public health is now the new gospel, and it is a sound gospel. An army of functionaries now act as curators of public health all over the world. Another army of trained scientists and investigators labour at the problems of life and health. Sanitary science commands the services of many of the world's devoted and unselfish investigators. As a result of their work new facts and new theories are put forward for public guidance in such a volume that the hard-worked health officer has not time to read them, much less investigate and determine their merits. This difficulty we hope in part to obviate. To observe the forward march of sanitary science, to note the discoveries of practical importance, and to place the results of this work before those who are in need of the latest and best information on the subject, is, in a modest way, the aim of this publication.

It will not be an easy task, and in its performance we shall no doubt leave much room for legitimate criticism; but an honest and we hope a

fairly competent effort will be made to disseminate light on the one subject which vitally affects every human being.

Much progress has been made in Canada in the lessening of mortality and suffering by the adoption of scientific methods for the prevention of disease. Where thirty years ago ignorance and prejudice permitted great mortality and a distressing amount of preventable suffering, the light of science and modern sanitary methods have wrought a great and beneficent change. Nevertheless, we are only beginning to understand the problems which confront the health officer and the sanitary engineer. Constant study combined with persistent effort to adapt means to ends will bring about still greater benefits.

It is a great and inspiring work. *Mens sana in corpore sano* was the wise dictum of the ancient philosopher; but it has taken twenty centuries and more for the human race to achieve that elementary knowledge necessary to enable it to successfully combat the most common and ordinary diseases which prevent the body from being sound. In the history of the combat, in our own times, there stand out the names of Pasteur, Beale and Lister, who are more truly great, more justly entitled to the admiration and veneration of the world than the warriors and statesmen whose names fill the pages of history, but whose merits have generally consisted in planning the destruction and unhappiness of their fellow men. Who can compare in the service of suffering humanity with Pasteur, that peerless knight of science? Upon his investigations rest the whole pyramid of disease-preventing methods. No name in the history of the world stands for the alleviation of human suffering as does that of Louis Pasteur. His work is an epic—it is an inspiration for all time to every worker in the field of medical science.

The conservation of life and the increase of happiness by the prevention of disease! These are the ideals to which our efforts are directed, and in the prosecution of these ideals we confidently bespeak the sympathy and support of all who are in a position to offer effective assistance.

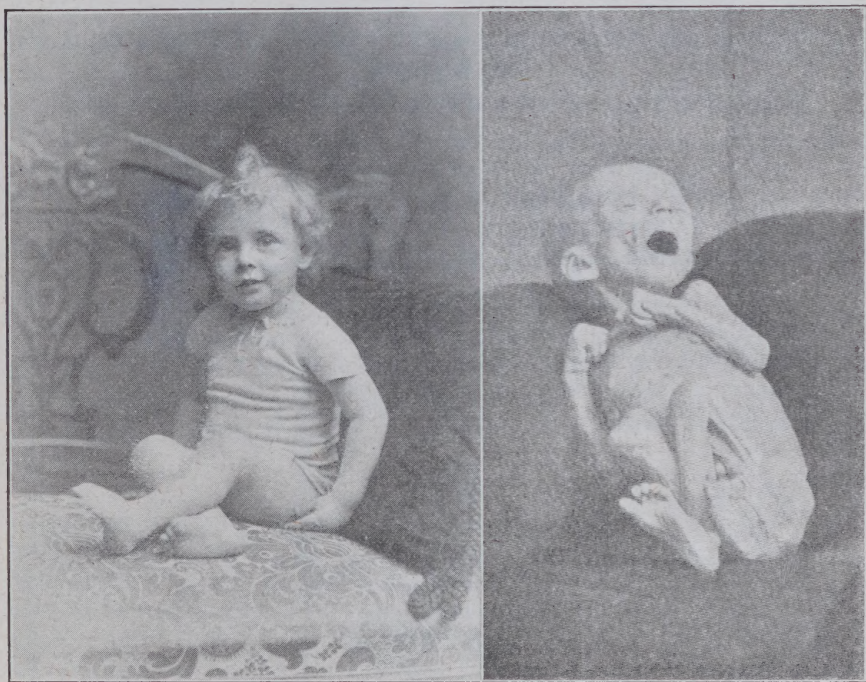
Train up thy children, England
Where hast thou mines—but in their industry?
Thy bulwarks where but in their breasts?
O grief, then—grief and shame,
If in this flourishing land there should be dwellings
Where the new-born babe doth bring unto its parent's soul
No joy—where squalid poverty
Gives it the scanty bread of discontent.

—Southey.

THE MATERNAL NURSING OF INFANTS

MANY reasons could be advanced for introducing this subject in the first number of this bulletin. The statement made by the

Registrar General of Ontario in his report for the year 1913, viz., that 29 infants under one year died through *lack of care*, is a modern instance of the slaughter of the innocents, happening in this twentieth century, in the cultured province of Ontario, where millions of dollars are spent annually in the so-called education of the people. Is not the bold fact a reflection upon the government, the municipality, the people, and upon every citizen of the province?



BREAST FED

BOTTLE FED

Another reason is found in the statement of the Medical Officer of Health of the city of Toronto, made in the June number of *Health Bulletin*, which says:

"Nine hundred and forty-nine babies under two years of age died in Toronto last summer. Most of these deaths were preventable because most were due to bottle-feeding. One hundred and twenty of the babies visited by the department of health nurses died during the summer months, and it is significant that 58 of these had working mothers. Only two were breast fed." Then follows the admonition at the bottom

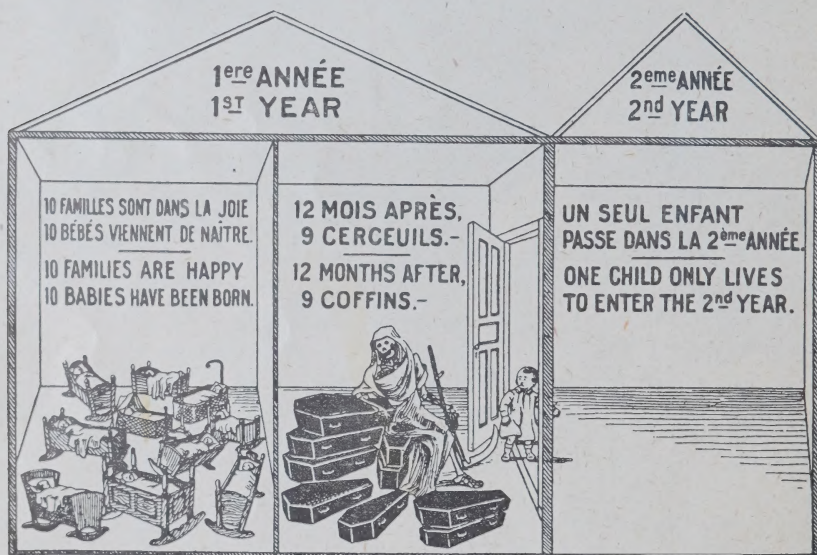
of the page: "After you have read the bulletin please pass it on." We would add: Ponder well the admonitions contained in the facts appearing therein.

The further reason is found in the *Winnipeg Health Bulletin* for the month of June. Of the 188 deaths reported 40 per cent, or 75, were infants under one year—while 101, or 53.7 per cent, were children under five years of age, and 62.7 per cent of all deaths were amongst persons under the age of 20 years. Truly a waste of human life and an object lesson in the necessity for a careful study of the conservation of life by a province which is largely dependent on immigration for a material growth in population.

How many of the deaths could have been prevented by the exercise on the part of mothers of their maternal function of "breast feeding" it

Résultat de la substitution de l'alimentation artificielle (biberon) à l'alimentation maternelle

The result of the substitution of the milk-bottle for the mother's-milk



AS ILLUSTRATED BY THE HEALTH AUTHORITIES OF QUEBEC

is difficult to estimate with exactness, but the graphic representation shown herewith of the evil effects of artificial feeding, as set forth by the health authorities of the province of Quebec, is reproduced for the benefit of all Canada. This illustration appears on the reverse of the official envelopes of the Board, while the exhortation of a priest of the Roman Catholic Church which accompanies it is worthy of the earnest consideration of all mothers and fathers in Canada who console themselves upon the death of the baby that "the good die young."

This simple appeal is one for the conservation of the greatest of Canada's resources and appeals to each one of us from a standpoint, the

religious, which is supreme, and which must not be ignored if, as a nation, we expect to grow and prosper.

The appeal of the Christian teacher reads: "When an infant dies, why should the family foolishly console themselves by saying or hearing others say: 'Oh! he is very happy, he is one more angel in heaven.' Would it not be better, after having valiantly striven for the glory of the religion and the country, to become a saint later than an angel now."

The aversion shown by mothers of the present day to the feeding of their own infants is an outstanding feature of our so-called civilization. The shirking of this responsibility is usually attributed to want of ability on the part of the mothers, whereas the true reason is lack of desire, due to the curtailing of the mothers' freedom of action in regard to social duties during the months of lactation.

This deliberate suppression of the maternal milk is undertaken at the risk of the baby's life, and is attended with serious disaster to the mother.

The arguments that science has made great advances in the artificial feeding of infants, and has materially reduced its risks and dangers, and that at the present time thousands of infants are brought up on the bottle, ignores the fact that the lives of thousands are sacrificed at the same time, and the health of a large percentage of those raised upon the bottle is permanently marred.

Mothers and fathers must clearly understand that science has not and, indeed, cannot, altogether abolish the risks and dangers of artificial feeding; nor will it ever be able to instil into the bottle those elements which lie deep hidden in the breast of the mother, beyond the reach of the analyst—those vital principles which cannot be supplied through any scientific device of man.

The cases, in Canada, in which a healthy mother has no milk or has unsuitable milk are extremely few, and the distinguishing of these cases should, in every instance be left to the medical man, who should bring his best skill to bear upon each case, having in view always the health of the mother as well as the vitality of the babe.

We have only pity for the mother who cannot nurse her baby, but consider that she who will not is a criminal; and, in the case of the death of the baby, both father and mother are homicides, for they, later, cannot satisfy the Divine Justice with the plea, "I did my best," while neglecting to nurse the baby and substituting, therefore, only an imperfect, though, perhaps, a scientifically compounded makeshift.

Perhaps the tale without words in the contrast picture shown herewith will bring home to Canadian mothers the fact that the making of Canadians is primarily in their hands and certainly the conservation of infant life is a duty they owe to themselves, the nation, and their Creator, and this can only be brought about by the assumption of intelligent motherhood. Mothers of Canada, we want the enhancement of all our national resources, and this can only be brought about by your personal efforts. Would you have your baby as No. (1)—breast fed, or as No. (2)—bottle fed?

THE INFECTIVITY OF TUBERCULOSIS

THE latest authority, and perhaps the highest in the English-speaking world, to pronounce upon the infectivity of pulmonary tuberculosis is the Royal College of Physicians of London.

This official statement of the leading body of medical men in Great Britain, under date of April 6, 1914, cannot fail to be of importance and of interest to Canadians, particularly as it is concise, scientific, and capable of being understood by all.

To health officials, and those engaged in the campaign against the white plague, this pronouncement will prove of great assistance in dispelling any exaggerated fears as to the infectivity of the disease and cannot fail to bring the public to a more sane understanding as to just how the adoption of simple precautionary measures may prevent infection.

THE INFECTIVITY OF TUBERCULOSIS

1. Tuberculosis is an acquired disease, but certain constitutional types may be inherited which render the patient specially susceptible to infection, and there is reason to think that such susceptibility is an inherited character.

2. The infective agent is the tubercle bacillus. This may be contained in the various discharges and excreta of the patient, and especially in the sputum of those suffering from pulmonary tuberculosis. No discharge is infective unless it contains the tubercle bacillus.

3. Cases of tuberculosis of bones, glands, and internal organs, from which there is no discharge, or which do not furnish any excretion, and cases of arrested pulmonary tuberculosis, have never been proved to be infectious.

(By *arrest* is here meant that all the symptoms and physical signs of activity have disappeared, and the sputum has either ceased or no longer contains tubercle bacilli.)

4. The means by which tubercle bacilli may enter the body are:

(a) *By inoculation*, through a wound or abrasion of the skin. This has occasionally occurred to workers in laboratories, post-mortem attendants and others dealing with tuberculous material, and is presumably the way in which lupus is acquired.

(b) *By inhalation*. Susceptible animals are readily infected by the inhalation of air containing tubercle bacilli, whether in droplets or suspended as fine dust, but in the spread of the disease among human beings the latter appears to be the more important means of infection. The sputum or other discharges, whether on soiled handkerchiefs, linen, garments, or elsewhere, when dried, may become pulverized, and in this condition may be readily dispersed in the air of a room. That droplets of sputum are less important agents of infection is suggested by the fact that the incidence of consumption upon the staff, nurses, and others engaged in hospitals for the treatment of tuberculous disease, where all discharges are carefully disposed of, is not above the average in the general population.

(c) *By swallowing*. Dust infected by the tubercle bacillus may be conveyed to food and so enter the alimentary canal; or infection may occur more directly in the act of kissing, or by consumptive and healthy persons using the same food utensils. As about 10 per cent of the milk supplied to large cities contains tubercle bacilli derived from infected cows, this avenue of infection is particularly important in the case of children. The bovine tubercle bacillus is more commonly

responsible for tuberculosis in young children than in adults, but the proportion of cases due to it varies very much in different localities.

There is no evidence that tuberculosis can be conveyed to others either by the breath alone, or by emanations from patients, or by their garments, unless soiled by dried sputum or discharges.

5. The spread of tuberculosis is favoured by uncleanness, overcrowding and, imperfect ventilation, and is hindered by the opposite conditions. Experience in hospitals and other institutions, where the following precautionary measures have been thoroughly carried out, indicates that by such measures the risk of infection is reduced to a minimum, namely:

- (a) The careful disposal and disinfection of the sputum and other discharges.
- (b) The disinfection or destruction of soiled handkerchiefs, clothes and linen.
- (c) The removal of dust by frequent moist cleansing of the floors, walls, etc., of the rooms.
- (d) The supply of abundant air space, and free ventilation with fresh air.

No risk is incurred by living in the immediate neighbourhood of institutions for the treatment of tuberculosis which are properly conducted.

REGULATIONS OF DEPARTMENT OF AGRICULTURE RELATING TO TUBERCULOSIS IN DAIRY CATTLE

WITH the highly commendable object of assisting the cities and towns of Canada to insure a pure and wholesome milk supply, and with the special object of preventing the sale therein of milk from tuberculous cows, the Hon. the Minister of Agriculture promulgated, on May 18th, 1914, regulations thereon.

These regulations extend to all municipalities of five thousand and over and are thus available to two and a half millions of our people.

The one fact to be emphasized is that the initiative for their enforcement rests upon the inhabitants of the cities and towns benefited; their public opinion must be stirred up in the matter and all pressure possible be brought to bear upon health and municipal authorities for the early petitioning of the veterinary director general for their local enforcement.

The government is willing to act; it is up to the people to act also.

The regulations are as follows:

REGULATIONS RELATING TO TUBERCULOSIS

1. The aid of the Department of Agriculture, as aforesaid, will be given to such cities or towns, having a population of not less than five thousand persons, as shall have secured the necessary provisions under provincial legislative authority for the purpose of agreeing to the present regulations.

2. The Government of Canada will assist any city or town, which shall have signified in writing to the veterinary director general its desire to have the aid of the Department of Agriculture in controlling bovine tuberculosis in the cows supplying milk and cream to the said city or

town, provided the said city or town shall have stated in its application for the aid of the Department of Agriculture, as aforesaid, that, being thereunto duly empowered by law, it will undertake and provide that

(a) Dairies in which milk or cream are produced for sale therein shall be licensed.

(b) No license shall be issued unless the dairy conforms to the required standard.

(c) The standard shall require that the stable shall have an ample amount of air space, and at least two square feet of window glass for each cow, and shall be well ventilated, drained, and kept clean and sanitary.

(d) After two years from the date of the first test of the cattle of any dairy, the sale within the said town or city of milk or cream from any herd shall be prohibited, unless the said herd shows a clean bill of health from the veterinary inspector.

(e) An inspector or inspectors shall be appointed and paid by the said city or town, whose duty it shall be to see that the undertakings and provisions, as aforesaid, are carried out, and that the cows are kept clean and properly fed and cared for.

3. The veterinary director general, on receiving notice in writing from any such municipality of its desire to have the assistance of the Department of Agriculture, as aforesaid, shall forthwith make enquiry, and, if satisfied that the foregoing requirements are being carried out, shall send veterinary inspectors to inspect the said cows.

4. Veterinary inspectors shall use the tuberculin test, and also make a careful physical examination of the cows, in order to determine whether they are healthy or not. Dairy bulls shall also be examined and subsequently treated in the same way as cows.

5. Following the examination and test, the diseased cows and reactors shall be dealt with as follows:

(a) Cows which in the opinion of the inspector are affected with open tuberculosis and are distributing the germs of the disease through the milk, faeces or sputum, shall be sent to an abattoir under inspection and there slaughtered as soon as conveniently can be done. When no such abattoir is within reasonable distance, the cows shall be slaughtered in the presence of the inspector, who shall direct how the carcass shall be disposed of.

(b) Reactors to the test shall be separated from non-reactors as effectively as possible, (suspicious animals shall be classed as reactors), and the owner shall be given the choice of disposing of them in one of the following ways:

(1.) Immediate slaughter.

(2.) Slaughter after they have been prepared for the block, by drying off and feeding.

(3.) Retaining them in the herd, and selling no milk or cream until it has been pasteurized.

6. Compensation shall be paid to the owner of the herd for all cows slaughtered under these regulations upon the following basis:

(1) One half the appraised value of the cow if destroyed as a case of open tuberculosis.

(2) One-third the appraised value of the cow if destroyed as a reactor at the request of the owner.

(3) Valuation shall be made by the inspector, and shall not exceed the maximum valuation for cattle as specified in Section 6 of the Act.

7. The salvage from the carcass shall be paid to the owner of the cow in addition to the compensation, provided compensation and salvage together amount to less than the appraised value; if more, the surplus shall be paid to the Receiver General.

8. No compensation shall be paid to the owner unless, in the opinion of the Minister, he assists as far as possible in the eradication of the disease by following the instructions of the inspector as to disinfection, etc.

9. No milk or cream shall be sold from a herd containing reactors unless such milk and cream are properly pasteurized. The inspectors of the municipality shall see that this provision is effectively carried out.

10. Tests and examinations of the herds shall be made whenever deemed necessary by the veterinary director general, and after each test and examination the herd shall be dealt with in the manner aforesaid.

11. All cows bought by the owner of a herd while under control shall be submitted to the test and successfully pass it before being placed with the healthy cows.

12. When two successive tests fail to detect any reactors in a herd it shall be deemed healthy, and the veterinary inspector shall, when requested, give a certificate to that effect.

13. The existing regulations respecting tuberculosis, in so far as they may be inconsistent with the present regulations, are hereby repealed.

HEALTH WEEK

WITH the object of focussing public attention for one week in the year on health, in its personal and public aspects, and in order to secure increased appreciation and support for the work of the sanitary authorities, the movement known as Health Week has been carried on in Great Britain for the past two years. The success of the movement has been such as to cause it to be placed on a more permanent footing and the Royal Sanitary Institute has undertaken its future organization.

An influential committee has been formed, with the Right Hon. the Lord Mayor of London as chairman, while among the members are the presidents of the Local Government Board and the Board of Trade, the Provost of Glasgow and the Lord Mayors of all the large cities and towns.

A Health Week has an important function to perform. At present there is no driving force behind the great question of health. Any cause which depends for its vitality and force upon public opinion must have something definite on which public opinion may crystallize—there must be some opportunity for focussing attention and rekindling enthusiasm. It is too often the experience that the work done by health authorities loses much of its effect through lack of response on the part of those for whom it is done. Health Week aims to emphasize the importance of personal attention to hygiene, by making health the chief topic of public concern during one week in each year, during which may be imparted to the public sound information as to hygiene, both personal and public; striving to build up a public opinion which will not tolerate a high disease rate, an excessive infant mortality, the insanitary housing of our people, or other matters having an undue influence on morbidity and mortality.

The manner in which Health Week is observed in a municipality or district must necessarily be determined by a local committee, but efforts should be made to bring members of every class and profession into line with the work. To inaugurate the proposal, a public meeting may be called and the objects of the movement briefly and clearly explained, and a representative committee and officers appointed to define and organize the work to be done.

PERSONNEL OF COMMITTEE

The local committee should, as far as possible, comprise representatives of every public body and private society which is in any way concerned with health, and every agency which plays a part in moulding public opinion. For this purpose the following may be invited to nominate members of the local committee:—The local health authority; the public and separate school and collegiate authorities; the board of trade; the local societies dealing with health, education, housing, and the prevention of tuberculosis; the National Council of Women and Daughters of the Empire; the Canadian Club; the clergy of all denominations, the press, the medical profession, the teaching profession, the militia medical officers, and the nursing profession; fraternal societies, and others having influence with any considerable section of the people. This large committee should appoint several small sub-committees to carry out the various executive duties incident to the movement and should endeavour in every way possible to get in touch with all who might give assistance towards attaining the end in view.

The local committee may decide, either to take up a general health campaign, or, by preference, may direct its energies to the concentration of public opinion on some particular problem. It is highly desirable that questions of a doubtful or controversial nature should be avoided and that nothing should be countenanced which savours of sensationalism or fads. It is rather advisable that stress should be laid on the benefit to be derived from regard to the laws of health, and the saving of life and immunity from disease which result from an efficient administration of public health, as well as the importance of attention to personal hygiene.

The programme for the week will necessarily be governed by local resources and local needs, but the following suggestions give a general idea of what may be done.

ITEMS FOR PROGRAMME

Sermons in churches and chapels, lessons in Sunday schools, addresses to clubs, societies and adult schools, lessons and addresses in day schools; essays by children; health talks at factories, mothers' meetings, literary and other societies, etc.; lantern lectures and cinematograph shows; lectures in city and town halls and municipal buildings; health exhibitions; baby competitions; healthy houses and furnishings, cleaning, model cottages; general cleaning-up days; visits to municipal works, disinfecting stations, water works, cleansing stations, schools for mothers, hospitals, housing, open-air schools, etc.; exhibitions by gas and electrical departments; cookery lectures, smoke abatement, home nursing, housewifery, infant care, physical culture; use of schools as centres for lectures and demonstrations; demonstrations by Boy Scouts, Boys' Brigades, Girls' Brigades, ambulance and first aid demonstrations.

SUBJECTS FOR LECTURES

Hygiene in Daily Life; Consumption, its Cause, Prevention and Cure; Open-air Schools; Food in Health and Disease; Microbes, our Secret Friends and Foes; Soap and Water; Clothing and Personal Hygiene; Parent and Child; Mother and Baby; The House We Live in; Health of a School Child; Formation of Health Habits; Hygiene in the Home; Flies and Disease; Physical Culture; Game and Recreations; Common Ailments, their Cure and Prevention; What the Municipality Does to Keep Us Healthy; Drainage of Towns; Water Supply, Scavenging, etc; Abatement of Nuisances; Food Inspection.

This brief description of Health Week is given to the public of Canada with the object of arousing interest, and in anticipation of its general acceptance, for it is felt that public interest must be stimulated in the various subjects as above outlined.

With every man, woman, and child in the Dominion practising personal hygiene the difficulties of public health officials will be minimized and the physical and moral uplift will be such as to surprise even the most sanguine sanitarian. We must, however, educate before we can practise.

THE CORRECT PRINCIPLES OF CHILD-REARING MUST BE TAUGHT

The principles involved in the care of the infant and in its rearing are simple; they are easy to understand, and easy to put into practice. It is, in fact, quite a simple matter to bring up an infant, if correct principles are adopted; it is another matter if principle is lacking or if special systems are employed.

Nature must be followed, or be gently led; coercion and opposition are extreme weapons. The whole tendency of nature is to carry out correct principles; correct principles are those which most nearly adopt

the highest strivings of nature. The correct principles should be included in the "finishing education" of every girl; it is only the characteristic of prudery which makes us the laughing stock of the world, that prevents us from leading other nations in this. A generation or two ago the elder girls of lower and middle-class families served a useful apprenticeship at home, and learnt the prevailing principles of the care of infants practically from the persons of their little brothers and sisters; such opportunities are becoming rarer to-day, as the size of families decreases. It is possible that in the future we shall insist on practical instruction in child-rearing being imparted to every healthy girl during that period of comparative idleness which now intervenes between her school days and her marriage. —*H. Laing Gordon, M.D.*

THE FIRST CANADIAN TOWN-PLANNING REGULATIONS

AS an example of the earnest intentions of a Canadian city to make possible the laws of the province in respect to this important subject, Halifax, N.S., sets the pace for others.

The regulations were approved of by the Board of Control, Jan. 30th, 1914, but their adoption by the City Council has only just been brought about.

That they may be useful to other municipalities, and stimulate the progress of town planning, the regulations are given in full.

TOWN PLANNING REGULATIONS

1. (a) Before any application for authority to prepare a town planning scheme is made, notice of such intention shall be given by advertisement in at least two newspapers published in the city, for not less than two weeks previous to the date on which it is proposed to make such application.

(b) The person or persons making such application shall, not later than the date on which the first of such notices is given, deposit at the office of the city engineer for the purpose of inspection and shall keep deposited thereat for a period of not less than one month from the date on which the last notice is given, a map or plan of the land proposed to be included in such scheme. Such map or plan shall be on the scale of 25 inches to the mile and shall be open for inspection by any person interested, without payment of any fee, during the hours at which such office is open.

(c) The notice shall specify the area proposed to be included in said scheme and shall state that a map of that land has been deposited at the office of the city engineer for the purpose of inspection during the hours at which such office is open, and the date of the meeting of the board of control at which it is proposed to make such application.

2. Where it is proposed to include in a town planning scheme land, any portion of which is outside the city, notice of such intended application shall be given in writing to the warden or mayor of the town or municipality in which such portion of said land is situated, and to the owner of said land.

3. At such meeting, or if no quorum attends at the next meeting, or at any other meeting to which the hearing of the matter is adjourned, the board of control shall hear

any objections to the inclusion of any land in the scheme and may grant or refuse authority to prepare such scheme in respect of all or any portion of the land in respect of which the application is made or may direct that other land be included in such scheme.

4. The date on which the application for authority to propose such scheme is made shall, unless the board of control otherwise directs, be the date referred to under the provisions of sub-section (2) of section (11) of the Town Planning Act as the date after which, on account of any building erected on, or contract made or other thing done with respect to land included in a scheme, a person shall not be entitled to obtain compensation.

5. Upon the passing of a resolution by the board of control authorizing the preparation of a town planning scheme for any area, notice thereof shall be given by advertisement published in two newspapers published in the city for not less than one week.

6. When a plan or scheme has been completed and is ready to be submitted to the council for approval or adoption, the draft plan and scheme shall be deposited at the office of the city engineer for inspection, together with the following information and estimates respecting such scheme, unless the board of control shall disapprove the same:

- (a) The acreage included in said scheme.
- (b) The population included in said area.
- (c) The assessed value of all property within said area, with the names and addresses of the owners thereof.

(d) The taxes and municipal revenue derived from property within said area.

(e) A map or maps on a scale of 25 inches to the mile on which shall be shown:

(1.) The lines and widths, official as well as otherwise, of all existing roads or railways or tramways.

(2.) The lines of any existing sewers, paved roadways, or sidewalks, and pipes or mains for the supply of water, gas, or electricity.

(3.) The location of all buildings within such area, indicating the material of which such buildings are constructed.

(4.) The lands and widths of all roads proposed as part of the scheme and the connection of such proposed roads with existing roads.

(5.) The roads or ways which it is proposed to stop or divert.

(6.) The areas proposed by the scheme to be located for the purpose of open spaces, private or public, or to be used for any other special purpose.

(7.) The contour and topography of the area included in said scheme.

(f) Information showing in what respects the proposals in the scheme would involve the repeal, suspension, or amendment of any statutory enactments, ordinances, regulations, or other provisions which are in operation in the area included in the scheme.

(g) What limitations or restrictions it is proposed shall be made in respect of the area or any part thereof included in said scheme, and the manner in which said limitations or restrictions shall be made binding and effective.

(h) Information as to whether any of the owners of land included in said area claim or may claim compensation on the ground that his property would be injuriously affected by making of the scheme.

(i) The estimated cost of carrying out the scheme, showing how such estimated cost is arrived at.

(j) The manner in which and by whom it is expected that the cost of said scheme is expected to be borne.

7. (a) Before any application is made to the board of control to approve or adopt a town planning scheme notice of such application shall be given by advertisement in at least two newspapers published in the city for not less than two weeks previous to the date on which it is proposed to make such application.

(b) The notice shall specify the area included in said scheme, the date of the passing of the resolution authorizing the preparation of said scheme, the date of the deposit of the draft plan and scheme referred to in section 6 hereof, in the city engineer's office, and the date of the meeting of the plan and scheme approved and adopted.

8. (a) At such meeting, or if no quorum attends, at the next meeting, or at any other meeting to which the hearing of the matter is adjourned, the board of control shall hear any objections to said scheme, whether made by or at the instance of any owner, tenant, improvement league, historical society or other person or body of persons interested in the amenity of the proposed scheme.

(b) The board of control shall endeavor, by conference between the owner, persons, or councils, and by any other means available, to secure the co-operation of such owners, persons or councils and may arrange for one or more public meetings at such time and place as such board may decide for the purpose of considering the proposed scheme.

9. The board of control, after hearing any objections to said scheme, may recommend to the council that said scheme be adopted or confirmed, or altered or amended in any particular or otherwise, and may fix the date when it will come into effect.

10. Notwithstanding the provisions of Sections 108 to 111 of the city charter, the council may adopt, confirm, alter, amend, reject, or refer back to the board of control any report or recommendation made by the board to the council in respect of any town planning scheme, by a vote of the majority of the members of said council present at any meeting.

11. Upon the passing of a resolution of the Council approving of any town planning scheme for any area, notice thereof shall be given by advertisement in two newspapers in the city not for less than one week.

A SUGGESTION TO FAIR MANAGERS

Encourage the mothers of Canada to suckle their babies by offering a handsome bounty to the woman who feeds her baby with breast milk rather than proffer prizes to those brought up on the bottle, and for this purpose, select your judges not because of their political or social standing, but because they have a knowledge of this important question. This suggestion applies to rural and urban districts alike.

Life's song, indeed, would lose its charm,
Were there no babies to begin it;
A doleful place this world would be
Were there no little people in it.

—John Greenleaf Whittier

MUNICIPAL MILK SUPPLY

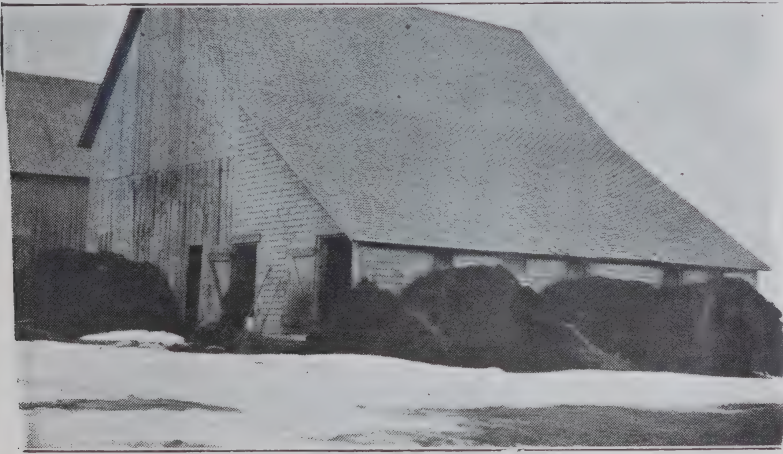
IT is the duty of the Municipality to see that you get pure, clean and fresh milk.

It is your duty to see that it is kept pure, clean and fresh.

Don't buy milk unless you are sure it is clean.

Milk not kept on ice is unsafe to use.

The foregoing statements are accurate. If we consider the latter statement alone, every consumer of milk in Canada may accept it as a fact, that during the hot summer months, very little of the milk sold in this country is safe to use because there is no attention given to the refrigeration of milk from the time it leaves the dairy farm until it reaches



AN UNDESIRABLE SOURCE OF MILK SUPPLY

Typical example of an unsanitary cow stable. Milk from cows housed in quarters of this kind is sold in almost every Canadian Municipality.

the cold storage plant of the milk vendors. Souring frequently occurs in the express car on the way to the city. This means increased cost to the consumer, who, though he may not appreciate it, is in every case charged with all losses incurred in handling.

If, then, milk not kept on ice is unsafe to use during many months of the year, and if it is the duty of municipal authorities to see that the consumer gets pure, clean, fresh milk, what are we going to do about it?

The public will not tolerate a merely destructive policy; the sanitarian must suggest a reasonable and rational substantive course.

Some will suggest that the solution of the problem will be found in an elaborate scheme of inspection of dairies and dairy cattle; others will say that a rigid supervision of all milk delivered, including a straining of samples through cotton disks, laboratory examinations, and periodical examination of dairies will suffice. The former method is costly and has, so far, resulted in guaranteeing only a small percentage of the total amount sold. Almost invariably the result has been to increase the cost to the consumer. The latter method, where in operation, has proved that a better average standard can be assured to the consumer—the town-dweller gets less barnyard manure and less pump water—but it is not good enough.



WOULD YOU LIKE TO DRINK THE MILK?

The water from this farm is liable to contamination from the stagnant pool of manure water in the foreground which drains down from the adjacent barnyard. The cows drink the water from this well and the milk cans are washed in it.

With a view to securing the desired standard, the suggestion is made that municipalities should alone control the purchase and distribution of milk, thereby removing the chief dangers, to overcome which requires to-day a body of sanitary police officials, whose annual upkeep materially adds to the price paid by the consumer. Towns and cities should deal with this problem somewhat as they do with the water supply, by taking it into their own hands, the only difference being that they would not own the dairy herds nor the dairies, as they do the water reservoirs. An urban

municipality could establish a milk department and, for this, would require one or more depots situated within its boundaries, equipped with all the apparatus necessary for refrigeration, pasteurization, bottling, and sterilization of containers of all kinds, also for modification of milk for infants. In addition to this all containers and vehicles for collection, transportation and distribution would be owned and controlled by the municipality, thus disposing at once of many of the difficult points where deterioration at present occurs. As to purchase, the milk department would have the most powerful "veto power" over impure milk that it would be possible to conceive. Purchase would be made only from those dairies approved of by its officers and milk, found to be below the standard fixed when tested at the depot, could be refused.

A municipal milk department as outlined would mean that excessive middleman's profits would be eliminated, and the public would be assured that all the people, both rich and poor, were getting milk that was clean, pure and fresh, at the minimum cost. Such a scheme is not now in operation, but it is as feasible and practicable as many other civic health projects which are now being carried on by municipal authorities, and which before they were initiated seemed to possess greater difficulties than does this one. Certainly none are of greater moment to the manhood and womanhood of the next generation.

HOW TO DEAL WITH SLUMS

THE opinion of an experienced medical officer of health upon this question is not only of interest, but, because it comes from the leading sanitarian in Scotland, and is the result of his practical work on the question, the health authorities of Canadian cities may very properly be led by the statements of Dr. A. K. Chalmers, M.O.H., of Glasgow. The doctor says:

"Get rid of the insanitary houses. The best way in which this can be done is by the co-operation of the municipality, the owners, and private effort. At present people are inclined to temporize. They say that other houses must be built first. They speak about the rights of property. They discuss the expense. Now, to my mind, there is only one possible course open to the state, or to the municipality, when houses are condemned as unfit for human habitation. They have got to be destroyed. What is to become of the inhabitants is not the question. What the owners of the slums will say does not matter in the least. Science declares these houses unfit for human life. While they remain, they are an offence. The poison centre of every city is the slum area. Those in authority have one thing, and one thing only to do—they must destroy. My advice is: Do it, and watch what happens. Don't be frightened by this consideration or by that. Do it and watch the results.

No man ought to be allowed to own or live in a bad house. Everything we know is dead against that. These poison centres fatally weaken the vitality of civilization.

"Whoever goes deeply into these problems comes to the personal equation, the personal factor. It is man with his soul that confronts the politician, the doctor, and the social reformer.

"Life is too sacred a thing for diabolical experiments.

"Infantile mortality is dreadful among families who live in one room and in two rooms; our tables show clearly how sensibly it lessens in cases of three rooms and four rooms.

"Civilisation, if it would advance, must destroy its poison centres—we must not create them—prevent them."

THE PUBLIC ABATTOIR

ANGLLO-SAXON nations, with their democratic forms of government, might reasonably be expected to blaze the trail for advanced legislation in the interest of popular well-being. In many respects the expectation is fulfilled; in others it is not. An instance of the latter is afforded by the scarcity on our statute books of measures aiming at salutary improvements of certain kinds. In this field of legislation Great Britain, Canada and the various states of the American union have much to learn from the practical methods of the nations of continental Europe. One feature, in particular, connected with the safeguarding of public health, ought to be given much closer attention throughout the Dominion than it has hitherto received, viz, the strict regulation of slaughtering conditions and the thorough inspection of animals destined for human consumption.

It is impossible to exercise too much care in order to guarantee a pure meat supply. Animal food forms such an important item in the national food bill, and diseases in animals are so intimately related to corresponding ailments in human beings, that one cannot over-emphasize the necessity for precaution. The two primary problems to be considered are the elimination of diseased stock and the maintenance of sanitary slaughtering premises. What is the most effective and, at the same time, the most economical method of securing these desired conditions? The continuance of our present private slaughter-house system can claim little consideration from those to whom public health and safety makes a stronger appeal than private profit.

It is beyond the scope of this article to discuss the merits and demerits of the various schemes practised or suggested for the proper inspection of meat. In the Dominion little has been done, either by experiment or investigation, but a study of the experience of other countries ought to serve as a guide in the solution of our own peculiar Canadian problem. It will establish at least one fact upon which nations are unanimous, although, in regard to the minor details of their respective systems, they differ. The point of common acceptance and agreement is that any successful system must centre in the municipal abattoir, the use of which for slaughtering operations must be made compulsory upon

all local butchers. This is the conclusion reached by Germany, a nation in which meat inspection has been carried on systematically for over thirty years; by many English cities, by such Scotch centres as Glasgow and Edinburgh, by Austria, France, Denmark and other continental nations. It is also the decision arrived at by the investigating commission recently appointed to study the question on behalf of the state of Kentucky. The following quotation from the bulletin which contains its findings is significant: "The municipal abattoir is the only effective means both to control the sanitary conditions and to eliminate diseased animals."

As stated before, little has yet been done in Canada toward the securing of a system of municipal abattoirs. One or two cities have public abattoirs; several others have made unsuccessful endeavours to secure them. More careful study and consideration of the problem, however, cannot fail to induce the Canadian people to follow the lead of European nations in making adequate provision for the inspection of meat and thus add to the mass of salutary legislation which has for its object the conservation of human life.—*O. M.*

PREVENTION OF OCCUPATIONAL DISEASES

IN spite of the importance of industrial processes and labour conditions upon the health of the community, our knowledge and statistical data are meagre, and this is due largely to the following causes:

(1) With few recent exceptions, occupational diseases are not under the law reportable to the health authorities. (2) Physicians are not sufficiently familiar with industrial processes, or even with the processes in trades designated as dangerous, so that they fail to recognize the relation of morbidity to occupation. (3) Statements of occupation on morbidity and mortality records are too general or inaccurate to be of any great value. (4) Inspection of industrial establishments is, as a rule, carried on by men entirely unfamiliar with health matters. (5) There is a lack of realization, both among employers and employees, of the dangers involved in certain processes.

Massachusetts has now for seven years carried on careful investigations on occupational hygiene. In 1907, the late Dr. Charles Harrington submitted a report to the Massachusetts legislature which dealt in a systematic manner with the effects upon the health of operatives in the various industries of Massachusetts. In the same year, a law was enacted whereby the state was divided into 15 health districts and a physician was appointed in each district as State Inspector of Health.

Massachusetts was thus the first state in the Union to recognize that sanitary inspection of factories is essentially a health matter, and should be under the charge of the central authority of the state. During the five years of their work the State Inspectors of Health have carried on extensive investigations in which special attention was given to the health of young persons employed in industrial establishments. As a result, a law was enacted in Massachusetts whereby minors are excluded from trades and processes designated by the state board of health as injurious to health.

WHAT IS NEEDED

To protect the workers from the ill effects upon their health from industrial processes or unsanitary conditions the following measures should be adopted:

(1) To collect complete and accurate data about industrial processes and about conditions under which the various industries are carried on.

(2) To obtain more accurate and detailed information relative to occupation on morbidity and mortality records.

(3) To instruct the medical student in this important field of preventive medicine by a course of lectures on the more important industrial processes and the diseases to which they give rise.

(4) To place the specific industrial diseases on the list of diseases notifiable to the central health authority.

(5) To examine periodically all workers in certain industries, these industries to be named by the central health authority.

(6) To exclude minors and women from certain industries which are designated by the central health authority as injurious to health.

(7) To have adequate laws regulating sanitary conditions and protective devices in industrial establishments and to have such laws intelligently enforced.

(8) To have the central health authority issue regulations for certain dangerous trades with instructions to employers and employees how to guard themselves against the ill effects of their work, and to have such instructions posted in the workrooms.

(9) To carry on an extensive educational campaign both among employer and employees as to the value of protective measures and good sanitary conditions.

CHILDREN'S COUNTRY HOLIDAYS

THE Local Government Board of England, as recently as June 25th, 1914, directed the attention of local sanitary authorities to the precautionary measures which should be taken to prevent the introduction and spread of communicable diseases which result from town children being sent to country districts by philanthropic organizations.

As this laudable movement is now receiving considerable attention in our larger cities through the agency of fresh air funds, it may be in the direction of prevention to here reproduce the substance of this timely circular.

1. *Communication with the medical officer of health in the country district.*

For this purpose intended arrangements should be communicated as long as possible beforehand to the medical officer of health of the country district concerned. This may either be done directly or through the medical officer of health of the county. In the case of larger agencies it seems advisable that such communications should be sent by the central office rather than by individual voluntary workers.

Although it should be understood that it is no part of the duty of the medical officer of health in the country districts to undertake special supervision of the arrangement made for these children or to advise the agencies organizing the holidays, it is believed that he will generally be prepared to extend such help as circumstances permit to the organizations concerned. It is anticipated that the communications above referred to will assist the agency by preventing children being sent to dwellings in the country where they would be exposed to risk of infection or to insanitary conditions, while the medical officer of health, in taking precautions against the spread of infectious disease in his district, will be materially assisted by information of the nature of the inquiries which have been made before the children are sent down, and by being put in touch with the persons who are responsible for their care and maintenance whilst in the country.

Sometimes also the occurrence of undesirable overcrowding might be prevented by previous reference to house inspection reports or other records available to the sanitary officers.

2. *Inquiries as to infectious disease before the children are sent.*

All practicable inquiries should be made to ensure that no children are sent to the country in an infectious condition or in the incubation stage of any acute infectious disease, or from infected houses.

In this matter agencies organizing country holidays vary so greatly in the scale of their operations and in the system by which the children are selected that no one procedure can be advocated. Some agencies arrange for personal inquiries to be made by voluntary workers at the children's homes; and the board think it desirable that this practice should be generally followed, care being taken that the inquiries instituted in each case are thorough and are made as near as possible to the date of departure.

Complete reliance should not be placed either on certificates of freedom from infection given many days before that date, or upon mere examination of the child at the last moment, without inquiries at the home.

As regards the ordinary notifiable infectious diseases, and sometimes also in the case of other infectious diseases, such as measles or whooping cough, the medical officer of health of the town would usually be in a position materially to facilitate inquiries, if he is supplied by the agency, preferably at least a week in advance, with a list of the names and addresses of the children and the date of their proposed departure. The addresses can then be compared with the records of infectious cases, revised within one or two days of the specified date, and the cases in which infection is suspected brought to the notice of the agency.

3. *Cleanly condition of children before departure.*

It is important that all children at the time of their departure for the holiday should be required to be clean and be provided with clean clothes for wearing during the holiday.

The board understands that many of the agencies already pay very strict attention to this matter, and obtain the co-operation of the local authority in the town, which gives assistance through health visitors or school nurses, by the use of cleansing stations, or in other ways. It seems desirable that such co-operation should be sought and furnished wherever practicable.

4. *Detection of infectious disease in children when in the country.*

The necessity of immediately calling in medical advice should a child fall ill cannot be too strongly impressed upon those responsible for the care of the children ~~in the~~

country, and if infectious disease occurs, the medical officer of health of the district should be at once informed.

The board would suggest that medical officers of health in districts which are affected by children's country holiday arrangements should bring the above suggestions to the notice of any agencies organizing country holidays, and also of individual religious or social workers who are known to arrange for such holidays on a smaller scale.

Large sums of money are spent in erecting, equipping, and maintaining isolation hospitals to limit the spread of disease among the people. Millions are spent annually in the administration of our police, industrial schools, jails, etc., for the purpose of preventing and punishing crime. Soon we shall be spending millions to build and maintain sanatoria and institutions for the eradication of tuberculosis. When the nation wakes fully to the fact that slums foster and create vice and pestilence, are the hotbeds of tuberculosis and other deadly maladies, especially in the young, it will be prepared to spend further millions upon their extinction. No real solution of this problem is possible without the co-operation of the state and the local authorities, the former being willing to make "grants in aid" and the latter in their turn supplementing such assistance from local sources.—*T. Ridley Baily, M.D.*

Little or great is man,
Great if he will, or if he will
A pigmy still,
For what he will he can.

—*Christena Rossetti.*

The foundations of national glory are set in the homes of the people, and they will only remain unshaken while the family life of our nation is strong, simple, and pure.—*His Majesty King George V.*

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Government
Publications

Town Planning and Conservation of Life

ISSUED BI-MONTHLY UNDER THE
DIRECTION OF
COMMISSION OF CONSERVATION
OF CANADA,
OTTAWA



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OCTOBER, 1914

No. 2.

"It is perhaps no exaggeration to say that in no other period of history has the prevention of disease occupied so large a place in the thoughts of every intelligent community as obtains at this present day. Organizations of intelligent men and women exist in all of the large centres of population whose sole aim and purpose is the conservation of the public health. Their time and means are freely given to the end that their fellows, of every class and condition, may not only be nursed back to health when they fall ill, but that their well-being may also be preserved by a healthful environment, and pure and wholesome food, in order to limit disease they may contract, avoid unnecessary ailments, and prolong their lives to their families and society.

No man is or can be "a law unto himself," but is, in a large sense, his brother's keeper. Individualism must be submerged in order that every human unit in every place have a community of interest with every other."

Conservation of Life

Vol. I.

OTTAWA, OCTOBER, 1914

No. 2

TOWN PLANNING ADVISER TO THE COMMISSION OF CONSERVATION

THE work of "Town Planning" has progressed rapidly in Canada. Several of the Provinces have adopted legislation which makes it possible for municipalities to do something, while from one end of the Dominion to the other there is ample evidence to show that the people are alive to the fact that our towns and cities can and should be planned upon better lines.

At the International Town Planning Conference held in Toronto in May last, the Canadian delegates met and passed the following resolution:

"That this representative gathering of Canadian delegates at the International City Planning Congress held in the Convocation Hall of Toronto University on Wednesday, May 27th, 1914, desires strongly to pray the Commission of Conservation, in view of the very practical co-operation and interest in the aims and objects of the present International City Planning Conference happily promoted by it, to further continue its good work by the creation of a special *Bureau of City Planning and Housing* in connection with the activities of the Commission of Conservation to act as a *Central Body* to encourage and co-operate with provincial or other housing and town planning bodies."

This wide-spread interest and the wish of the people to do something has created the demand for someone to guide and wisely direct action in this scientific work.

It has been felt that the work is surrounded with difficulties and calls for a leader who is more than a mere landscape architect or one who can plan a city beautiful—one who, while possessing the faculty to grasp the æsthetic, can direct the work of town planning upon practical lines, meeting the many difficult and intricate problems which surround the question in such a manner as to bring the whole of the work within the range of practical and economic municipal possibilities.

In the belief that the subject is one truly within the sphere of national conservation, the Commission of Conservation has secured the services of one who is considered as the highest authority upon the subject, perhaps in the world. Mr. Thomas Adams is peculiarly fitted for the important position of Adviser to the Commission in all matters connected with town planning and housing, for he brings to his duties great knowledge and depth of sympathy and a width of outlook, coupled with a wealth of experience in all these matters which eminently fit him for a task of such enormous magnitude.

For the past four and a half years Mr. Adams has filled the position of town planning expert of the Local Government Board of Great Britain,

where he has been responsible for all the preliminary work under the Act of 1909, and the Commission of Conservation has been most fortunate in securing his services for a period of at least three years.

That his qualifications are of the highest is apparent, for his works speak for themselves. Educated at Edinburgh, he became a Fellow of the Surveyors Institute (by examination). He is President of the Town Planning Institute of Great Britain. He is an Examiner in Civic Design to the University of Liverpool and Honourary Fellow of the Garden Cities and Town Planning Association.

At different times he was secretary and manager of the first garden city at Letchworth, in which capacity he was responsible for the executive work of the foundation of Letchworth upon which work he has left an indelible impression of his abilities. In his practice as a town planning surveyor, he has acted as consultant to the Marquis of Salisbury, the Earl of Lytton and others of the large land owners of England. He prepared the plans for Knebworth, Alkington Newton Moor, Shirehampton and Glyn Gory, and a number of other garden suburbs and villages.

During the period of service with the Local Government Board he has held inquiries into about eighty proposed town planning schemes in England and conducted all inquiries into such schemes as have been compiled and approved to date.

One of his most important pieces of work has been the organization of the Arterial Roads Conferences of Greater London, to which he was specially appointed to represent the Local Government Board in 1913. Upon Mr. Adams has fallen the responsibility of organization, a task of itself of no mean magnitude when it is remembered that 113 local authorities are represented in the conferences and all of them are working harmoniously together, with the object of securing the "town planning" of the world-great metropolis.

It can, therefore, be safely said that the Commission has secured for the people of Canada the best expert that can be found upon the subjects of town planning and housing, and his services are to be used by the Commission for the improvement of all Canadian towns and cities, the people of which indicate an earnest desire to extend and build upon the most modern and economical lines.

HOME TEST FOR DIRT IN MILK

The following is a simple home test for dirty milk which it might be well for the housewives of Canada to apply. A perfectly clean funnel is used with a small piece of clean wire netting fitted in the neck opening and a thin layer of clean cotton batting on the wire netting. The funnel is stood in a large jar and a quart or more of the milk filtered through the cotton. The cotton is then removed and placed on clean white card to dry. If there is evidence of dirt upon it the attention of the milkman may be called to this direct evidence of careless handling and if trouble persists the local health authorities may well be notified.

THE HEATING OF OUR HOUSES

NO one will question for a moment the bad effects on health of improper ventilation. We emphasize the beneficial effects of open-air treatment of tuberculosis and pneumonia, forgetting that the same fresh air treatment, if as rigidly carried out, would prevent a large proportion of cases of both of these diseases.

In the heating of our homes, the three cardinal points are: proper temperature; proper humidity or moisture; and a current of air—in short, the securing of proper climatic conditions.

The normal out-door air contains from 65 per cent to 75 per cent of moisture. Pass this through a hot-air furnace, and by the time it reaches our living or sleeping rooms it will not contain more than 40 to 50 per cent of moisture. The same is true in houses heated by hot water where no provision is made for supplying moisture. The result is that this dried-out air craves moisture, and will take it up from all surrounding bodies—from our skin, the mucous membrane of our mouths, noses and throats; and is in a large measure responsible for the dry, hacking laryngeal coughs so prevalent in winter. Furthermore, from an economic standpoint, this method of heating without moisture is very extravagant, for very dry air requires a higher temperature to produce the same sensation of warmth and comfort than does an atmosphere with proper percentage of moisture.

To overcome this dryness, small reservoirs for heating water have been attached to the furnaces; but these are rarely kept full, and even when they are, they are not at all adequate; for instance, air at 25 degrees Fahrenheit (7 degrees of frost), even if saturated with moisture, if heated to 70 degrees, would require the addition of a half pint of water to every 1,000 cubic feet to give it a humidity or moisture of 65 per cent, which is practically normal.

Some conception of the amount of moisture required, and how far the air in our homes, schools and factories falls short of it, can be had from the following description of the precautions taken by the American Bell Telephone Company in their chief building in Boston, which has a capacity of 450,000 cubic feet and a day population of 450 persons.

The fresh air, which is distributed by a mechanical system, is drawn into the building at the rate of 26,000 cubic feet per minute, and has moisture added so as to contain about 50 per cent of relative humidity. To secure this condition, 675 gallons of water, in the form of steam, are mixed with the air, in ten hours, or about one and one-half barrels per hour. Certain parts of the building which had been heated with difficulty before are now made more comfortable; and in the whole building three degrees less heat is required to maintain a comfortable temperature. There has been a noticeable absence of coughs during the winter among the employees.

Various humidifiers have been suggested, of which a very efficient and simple one is the exposing of the air from a register or radiator to moisture, by having it pass through a surface of cotton wick—one end of which is submerged in a reservoir or vessel, containing water, and which it attached to the radiator. It has been demonstrated that by means of

this contrivance the relative humidity of a room can be kept between 55 and 60 degrees Fahrenheit by evaporating about four and a half quarts per day; and a temperature of 65 degrees so maintained is as comfortable as one of 70 in a dry atmosphere.

A practical illustration of this is the fact that we can sit and read in comfort on our verandahs in a temperature of from 60 to 65, degrees, having a normal humidity; while the same temperature in our homes, with a dry atmosphere, would be very uncomfortable, owing to the more rapid evaporation of moisture from the surface of our bodies in the drier atmosphere.

Obviously, then, whatever the method of heating may be, it is imperative that provision be made for having the air sufficiently charged with moisture.

THE BACK-TO-THE-LAND MOVEMENT

THE back-to-the-land movement is frequently referred to as a possible remedy for the evil of urban overcrowding. By many social reformers the exodus from the country towards the city is greatly deplored and many earnest workers are putting forth brave efforts to combat the tide and induce the current to flow in the reverse direction.

During the decade 1901-1911 Canada's urban population increased by 62 per cent and the rural population by only 17 per cent. In the Maritime Provinces and in Ontario the rural population actually decreased. In 1901 the people living in towns and cities formed 38 per cent of the total population; in 1911 this proportion had been increased to 45 per cent. In the United States it is 46 per cent and, therefore, the ratio of urban to rural population is now about the same in Canada as in the great republic. This cityward movement, as disclosed by the last census, undoubtedly furnishes food for serious thought and, in some quarters, is regarded as very disquieting.

The advocates of the back-to-the-land movement lay great stress on the congestion, poverty, unemployment and squalor of life in the city slums, and are fond of contrasting this with the comfortable home life, demand for labour, and delightful surroundings to be found in the country. While thousands in the city are crying for work, farmers are complaining of the scarcity of help. Moreover, we are increasing the number of consumers of food products far faster than the number of producers and this is blamed as one cause of the high cost of living. Also, rural conditions are usually more healthful than city environment and, from the point of view of race conservation, the depletion of the rural districts is to be deplored.

Theoretically, the foregoing argument seems unassailable, but the enthusiasts who preach to others the attractions of an Arcadian existence—and who generally have some good excuse why they themselves should not be pioneers—ignore some very important practical considerations. Primarily, the great improvements in farm machinery and the growth of agricultural education and better methods of tillage have made

the farmer of to-day more efficient than his predecessor of a generation ago. In other words, it takes less labour to raise a given quantity of food than used to be the case; each farmer to-day can feed more men than his father did, and, consequently, a smaller proportion of the total population is needed to engage in agriculture. As for the scarcity of farm help, the scarcity complained of is a shortage, not of labour supply but of efficient labour. The idea that any able-bodied man will do for a farm labourer is held only by those who know nothing about farming. Skill is required in this as in other occupations. The farmer has no use for the city's inefficient or ne'er-do-wells. The cost of living cannot be reduced by overwhelming the countryside with tillers of the soil, thus either making agriculture unprofitable or giving rise to a peasant class which would be no improvement on the slum-dwellers of the town. Millett's "man with the hoe" is not the ideal we wish to set up for the dwellers in rural Canada. The cost of living, if it is to be reduced at all, will be lowered by an improvement in our costly methods of distribution, and this is an urban, rather than a rural, problem. We must make up our minds that the increase in our city population will continue and that no extensive back-to-the-land movement will counteract it. To conserve the race we must, by scientific town-planning, improve the material environment of the city-dweller, and, by physical training in our schools, secure as fine a bodily stamina for the city as for the country child.

Speaking generally, therefore, we may say that the movement of population cityward is determined by economic and social causes which it is impossible to resist, and that our policy must endeavour to regulate rather than to dam back this flow. Nevertheless, an actual decrease of rural population, in an agricultural province like Ontario, is a danger signal, and shows that the movement in Canada, during the last decade has been excessive. This was probably due to special causes, such as the rush to the West and the abandonment of lands like those in the Trent watershed, which should never have been taken up for agriculture. There are not wanting signs that the present decade will show, in this province at least, a slow returning movement, which, when the next census is taken, will exhibit a steady progress in city and in country alike.

SAFETY IN SPORT

THE advent of the shooting season calls attention to the number of accidents annually recorded as a result of carelessness by hunters.

Year after year accidents of the same class occur: guns go off prematurely, or through want of care in handling; hunters in the woods are shot in mistake for deer and other animals. Another series of accidents, due to the upsetting of canoes, results in the drowning of duck-hunters or other occupants.

While the railways and other large employers are advocating and insisting upon safety measures by employees during working hours, it is of equal importance that the "Safety First" movement should have a place in the field of sport. If, by the exercise of care, lives may be saved and the number of those injured be reduced, it will well repay the greater caution required by those indulging in the favourite autumn pastime.

HOUSING AND HOMES

CANADA is rapidly becoming a country of large urban centres. The census returns for the past fifty years show conclusively that the cities and towns have developed much more rapidly than, and in many instances at the expense of, the rural districts. That the change has come rapidly is shown by the fact that in 1881 only 14 per cent of the population was found in towns and cities of 5,000 or over, while in 1911 the number had reached 45.5 per cent, in spite of the phenomenal development of agriculture in the Prairie Provinces within the last fifteen years. It will thus be seen that the difficulties arising from overcrowding in cities have increased many fold, for houses have had to be provided on short notice. To add to the complexity, a large percentage of the foreign immigrants concentrate in the cities. About one-tenth of the population of the cities of Toronto, Hamilton and Brantford, and more than one-quarter of that of Port Arthur and Fort William, are foreigners.

As a consequence, in many cities the house that was intended for one family has been converted into two, three or more family apartments. In these once healthy homes, it is not uncommon to find from twenty

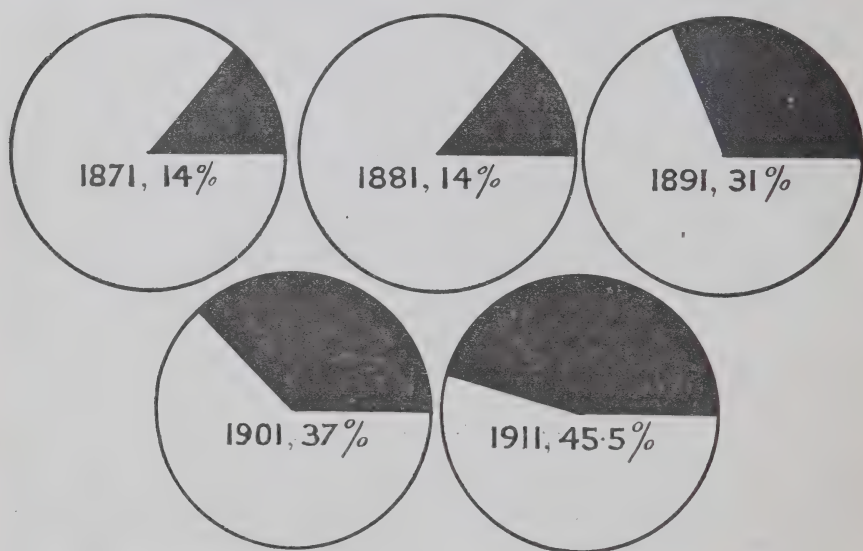


DIAGRAM SHOWING PROPORTION OF URBAN POPULATION IN CANADA

to thirty persons, of all ages and both sexes, living among insanitary and unhealthy surroundings—and such conditions are on the increase.

In the older countries overcrowding in cities has degraded the health and morals of large numbers of the people, and there is every reason for expecting a similar result where it is permitted in Canada. Overcrowded districts always produce numerous cases of infectious diseases, as well as of consumption and other disorders arising from general debility. Sir John Simon, the father of sanitary science in England, has said: "To

children who are born under its (overcrowding) curse, it must often be a very baptism of infamy."

It has been well said that "blessed is the man who can learn from the experience of others," and the proverb is as applicable to nations as it is to individuals. So far, Canada has failed to appreciate fully that the overcrowding in European cities has been a direct cause of physical, moral and social debility, and has not grasped and overcome the problem as it presents itself in our young cities. Health authorities must be given greater powers in the matter of condemning and, if necessary, ordering the destruction of houses that are not *homes*. Building regulations in Canadian cities are also notoriously inadequate, and such as do exist are rarely enforced.

First of all, Canada needs an aroused and educated public sentiment. This will, as a matter of course, demand the enactment and enforcement of legislation sufficient to stamp out overcrowding with all of its attendant evils, and go far toward making every Canadian house a *home*.

THE GARDEN CITY: ITS ORIGIN AND PURPOSE

THE "Garden City" movement comes to us from England. It had its origin as a practical protest against the disgraceful housing and living conditions which prevailed among the working class inhabitants of the populous industrial centres of that nation. Advocates of better housing, etc., conceived the idea of constructing, on agricultural land, a model or garden city, in which due care should be taken for the proper utilization of land, for housing regulations, for the provision of public utilities, transportation and recreation facilities, and, finally, for a just system of taxation. This idea led to actual experiment, the success of which clearly demonstrated the feasibility and economic soundness of such undertakings.

As a practical means of alleviating conditions due to lack of civic foresight in past years, the garden city or suburb is merely in its infancy. A model town is not an unattainable, Utopian ideal. It is only an example of the manner in which the growth of any urban municipality should be guided and controlled. The application of principles of common prudence alone is required to establish well-planned communities on an economic basis.

In Canada, we have somewhat less need for garden cities than has England, where it is very difficult to remedy past errors in existing cities. We have, however, a great need of wise planning for the future growth of our younger towns as well as of the older centres, many of which will experience rapid growth in coming years.

Students of municipal taxation will find the garden city and kindred movements of particular interest, for in such enterprises the question of taxation is prominent. Moreover, an excellent opportunity is afforded for the acquisition by the community of communally-created values. Much of the difficulty connected with the determination of such values is eliminated by the fact that these cities are constructed on areas where the land and agricultural values coincide at the outset.

EARLY CHILDHOOD AND PROBLEMS IN TUBERCULOSIS

By William Charles White, M.D., Medical Director, Tuberculosis League, Pittsburgh, Pa.

THE question that first requires an answer in the discussion of prenatal and early childhood problems is this: What just reason is there for tuberculosis organizations inaugurating and conducting preventive work among babies and mothers?

We have at present voluntary organizations dealing with the betterment of almost every age and aspect of child life, as well as specially trained practitioners of medicine who deal with this period of life exclusively.

We have societies for the care of mothers during pregnancy; societies for the prevention of infant mortality; societies for the study of child welfare and child hygiene; societies for the control of child labour; all dealing with the health of the child and the potentiality which a healthy child carries as an investment for the state. Besides these voluntary groups, we are now entering upon the decade of state and municipal control for all health problems and so we have school physicians, school nurses, as well as separate bodies of municipal and state physicians, all of whom take a hand in the general welfare of the young human race, and it may be said, without fear of contradiction, that all the work of these various organizations is contributory in part to the prevention and cure of tuberculosis.

On the other hand, there stands out very clearly the universality of the tuberculosis problem. All lines of tuberculosis activity lead more or less directly back to the great truth that the implantations of tuberculosis are in childhood. The evidence of the post-mortem table, and the probably more delicate test of tuberculin, have shown us most conclusively that practically all our children in many of the crowded centres of population are at fourteen years of age the seat of tuberculous infection. In this childhood period we have all the varied forms of tuberculosis—of bones, glands, serous membranes, intestines, lungs, joints and meninges—to deal with, while in later life we have but the monotony of pulmonary tuberculosis, which becomes depressing in its multitudinousness, and which may be said to result in some way from some of these primary infections in earlier childhood.

On account of this universality of the infection tuberculosis organizations the world over have suddenly drawn toward the assumption of various forms of child welfare work, and it may be just as pertinently said that all the work done by tuberculosis organizations in this field contribute to the general health of the childhood period in just as great or to a greater degree than do the other organizations contribute to the prevention of tuberculosis.

These various activities are bound to continue and to widen in their scope, but the great weakness in the present plan is that there is no continuity in the paternalism with which the child's life is guarded. From the day of his birth the new human individual is seized upon by

organizations or their agents—first, to prevent his infant mortality; then to see that he goes to the proper sort of school; then to prevent his labour; and besides these, he has a sprinkling of private practitioners and pediatricists in the various clinics and dispensaries of our large cities, and in it all there seems to be no dream of continuity. One paternalizing organization has no responsibility in seeing that the individual is passed on from the day of his birth until the day of his independence without the loss of a guiding hand, and so there has arisen, in this wonderful period of altruism, probably the greatest economic waste that the world has ever witnessed.

There has never been in the history of the world so comprehensive or efficient an organization for the improvement of any social condition as that which has been developed in every civilized country for the control and prevention of tuberculosis. Organizations for the public and voluntary control of this disease exist in practically every place in the civilized world, and all these organizations are centralized in state, national and international conference, and, besides this, as is pointed out above, all the lines of activity of this great organization have led steadily back, as the source of its problem, to the childhood period, so that nothing could be more fitting than that, in the interests of economy and of efficiency, there should congregate around the various tuberculosis organizations in the different communities all the other interests which have to do with the social betterment which can never be separated from health, so that all our labour may tend toward the highest point in human achievement—municipal autonomy, which will eventually find its expression in these matters in a unit equipment for a unit population.

As examples of the interlocking of the various problems which are presented to tuberculosis organizations, in common with all other organizations for child hygiene in an antenatal and post parturient period, there come up the health of fathers; the feeding, rest and health of mothers; the feeding of infants; the provision of pure milk supply; the matter of fresh air and rest; of clothing; housing conditions in home and school; associations in school and workshop; and of dentistry—all agents using practically the same implements for the attainment of their individual desires. To me there can be no argument offered to justify a multiplicity of agents to secure for any family the desired best family conditions which shall contribute equally well to the protection against all types of sickness. If our medical and nursing training schools are fulfilling their function, surely one graduate agent is competent to handle every side of the health problem; especially should this be true when the principles underlying all care and prevention are alike. And so, again, it seems to me that the congregation of our various forces around the present organized army for prevention of tuberculosis is not only the wisest course, but the most economical and most efficient course.

I cannot call attention to all the activities that have to do with the prenatal and early childhood problems. I feel, however, that there are certain features which probably do not suggest themselves as quickly as others, and it is these more neglected fields that I wish especially to emphasize.

Probably one of the most serious sources of infection to the child has lately been emphasized by the report of Doctor Hess from the ward

of a large infant asylum in New York. In this institution the utmost care had been taken to control tuberculosis by segregation after giving to all children a tuberculin test and feeding them only on a pure pasteurized milk supply, containing no tubercle bacilli capable of producing tuberculosis, but, as so often happens, the greatest carelessness of all crept in—they failed to examine those who were to nurse and handle these so carefully protected children, and a consumptive nurse was admitted to the ward, and all the children whom she nursed became tuberculous.

One cannot read this history by Hess without being impressed with the seriousness of this, one of the great sources of the spread of tuberculosis in children. How careful we are in our private homes of our milk supply! How careful we are of the food of our children! How persistent we are in our efforts to prevent the contacts that may cause scarlet fever, smallpox, measles, whooping-cough, etc.—and yet how every day we accept nurses for our children and servants into our households who spend from weeks to years working for us, but spend their last two years, or less, of life dying in a hospital for the care of consumptives! We have seen so many such cases that it seems to me one of the most serious problems in tuberculosis work. Many conditions excuse it, the most important of which is that the housework and nursing have to be done and the labourers are few.

We talk so freely about the prevention of tuberculosis, and I know few of us have begun to do our duty in being sure that in our own homes and in the homes of our patients those who care for our children cannot infect them with tuberculosis, or with other chronic illnesses, and I do not think we will begin to reach the root of this problem until this and similar activities have gained greater force and until the examination of nurse-girls and nurses who are to be intrusted with the care of babies and children in our homes is a matter of routine. I am sure that many of those of feeble constitution caused by tuberculosis take on the work of nursing because it is a lighter task, and this may possibly be the explanation of our large mortality in the earlier years of life from this illness.

As another very serious feature in connection with early childhood in which the tuberculosis workers fight shoulder to shoulder with the various agencies dealing with child welfare and one of vital importance to all physicians dealing with childhood diseases is the question of pure milk supply. It cannot be said to be more the province of one group of workers than of another; it is equally true that pure milk supply is fundamental in the protection against typhoid; in the protection against sore throat; in the protection against infantile diarrhoeal diseases; and probably in prevention of various forms of glandular and bone tuberculosis.

I can only say, in conclusion, on this point of contact it seems to me well for all of us to join our forces for the prevention of illness from the use of milk, and this I feel can be gained only by a carefully supervised, municipally controlled, pasteurized milk supply.

As you will see, every activity to which the tuberculosis work brings us also brings us in contact with other organizations. The great truth that appeals to me in every study of this sort that we enter upon is that

we must have men guiding these various factors who can co-relate and bring together in some such way as we have attempted to outline above the many activities which have to do with the national health and welfare, but we have no right to be impatient, for, in the words of the preacher, there is a time for all things, "A time to every purpose under the heaven: a time to plant, and a time to pluck up that which is planted"; and the time for co-relation will come in its own good day.

MILITARY HYGIENE AND SANITATION

IT may appear absurd to speak of the conservation of human life, at a time when almost the entire continent of Europe is engaged in a relentless struggle. Modern military equipment and methods are expressly designed to waste human life and it appears inevitable that so long as nations continue to resort to arms for redress of real or fancied wrongs, so long will periodic ravages of the race recur. Nevertheless, much of the sacrifice to Mars that has blotted the record of the ages has been wholly unnecessary, and might have been avoided had military leaders exercised even the most rudimentary precautionary measures in respect to the care of troops in the field. During most of the great European wars, fever and cholera more than the bullet and the bayonet have thinned the ranks and swept away entire regiments. To check this loss, a pure waste from the point of view of military efficiency as well as from that of humanity, the new science of military sanitation has developed, not yet perfected by any means, but following and paralleling the progress of civil hygiene. Referring to the practice of this science, one may, therefore, speak of conservation of life even in the throes of war and leaders may endeavour to offset the cruel slaughter of the battlefield by minimizing the terrible drain of life due to the faults of camp and commissariat. The sanitary service of an army must reach the acme of efficiency and make all efforts to furnish soldiers with pure food and water, proper and sufficient clothing, and well located and drained encampments, especially when it is necessary to go into winter quarters.

Gen. Sir Horace L. Smith-Dorrien's introduction to the "Handbook of Military Sanitation" furnishes some striking information and data which illustrates just to what extent the toll of life exacted by warfare may be decreased. It is pointed out that, even as late in the history of modern warfare as the South African war, twenty times as many hospital patients were treated for two diseases alone, namely, enteric fever and dysentery, as for wounds, injuries, and accidents combined. During the Russian-Japanese struggle, however, the excellent management of the Japanese army marked a decided improvement in the care of troops in the field, and it is to be hoped that the same satisfactory conditions will characterize all succeeding struggles of nations.

If wars must occur, many human lives must be lost. While that part of the loss which is due to disease can be minimized, too much can not be expected in view of the restrictions upon sanitary methods necessarily imposed by campaign contingencies. Nevertheless, that government which fails to take every possible precaution and preventive measure is guilty of the wilful sacrifice of the nation's best blood.

REACHING THE HOME THROUGH THE FACTORY

A NUMBER of the manufacturing companies of the United States are employing district or visiting nurses. Usually they are under the direction of the local company physician, or plant manager, although in some cases they are under the City Visiting Nurse Association. Their duties are to visit homes of employees, especially where there is sickness and the family would be benefited by the assistance or instructions of a trained nurse; to render such aid as will add to the comfort and welfare of the families; and to instruct and direct in the care and feeding of infants. These nurses explain the proper preparation of all food and advise in the matter of economical purchasing; discourage anything and everything that does not tend to produce good morals, and teach the value and necessity of cleanliness and the benefits of fresh air and sunshine.

At one large steel plant for example, where the nurse employed is a member of the Visiting Nurse Association, there has been organized among the superintendents and foremen a "Good Fellow Club" to work in co-operation with the nurse. The members of the club contribute fifty cents per month (or any amount greater or smaller which they may care to contribute) to a fund to be drawn upon immediately by the nurse for relieving such distress as requires instant attention, temporarily, and until more permanent relief can be provided through the regular avenues involving the delay attendant upon regular procedure. The nurse uses this fund as she deems wise. It may be for the purchase of a bed, or necessary food and cooking utensils, or a special diet for a sick person, clothing for the children, etc.

During the summer this "Good Fellow Club" maintained a small playground on some vacant lots in a congested neighbourhood, near the mill. A woman was in constant attendance, and the nurse made several visits a day. In this playground the little children could be watched and cared for, and it was the general opinion that many cases of illness among the children had been prevented.

SANITARY ENGINEERS ON HEALTH BOARDS

Building conditions, especially in the cities, have become so much a matter of sanitation and ventilation, and the health problems which confront the members of the local boards of health are so closely allied with the study of sanitary science, as to suggest that among the members of health boards a practical sanitary engineer be included. Naturally this appointment would be an honorary one, but, from the public standpoint, it would be of inestimable value to the municipality to secure the advice of practical men on the important questions which arise in the administration of its public health department.

In the city of Manila, P. I., all buildings must be rat-proof. All hollow construction is forbidden, except it be without openings through which rats might pass and of material through which they cannot make their way.

DANGER FROM COMMUNICABLE DISEASES IN WINTER MONTHS

WITH the approach of the coming autumn and winter months, a word to wise parents in regard to communicable diseases, if heeded, might prove of great value in preventing unnecessary loss of life and the spread of these preventable diseases. During the summer, when children spend their days in the open, the incidence of scarlet fever and diphtheria is much less than during the inclement months, when so many are brought together in the schools and in their own homes. The cold, damp weather lowers a child's resistance to such an extent that he is a prey to germs which ordinarily would be thrown off, and his close contact with his fellows makes him a source of danger to many others.

WATCH SORE THROAT

We urge the parent to watch closely the health of every child, and not at any cost to regard lightly a complaint of sore throat. Such a complaint should be immediately attended to by a physician and regarded and treated as diphtheria until proven otherwise. If this were universally done, there would be few or no deaths from this disease, and no life-long regrets by parents who may have done their utmost in their own but ineffective way. Call a physician, have antitoxin administered early, and you will have little to fear. Pitiful scenes are witnessed in the admitting room of the isolation hospital when children, ill beyond human aid, are brought by their mothers, who will tell how they have stayed up night after night applying home remedies, but admitting that they had neglected to call a physician until the last minute. This is "mothers' love," but it does not cure diphtheria; in fact, it may in many instances be the direct cause of death. Remember that the early administration of antitoxin means life and that delay is dangerous.

RASH ALSO A SIGN

Moreover, do not conceal the occurrence of a rash, however trivial it may seem, for the sake of the patient himself, and of those who come in contact with him. Loss of hearing and irreparably damaged kidneys are quite as likely to follow a mild case of scarlet fever as a severe one, and who knows but that a brother or sister may contract a severe form of the disease for which there is absolutely no hope of recovery.

If every parent would heed these simple precautions the occurrence of communicable diseases would be greatly lessened and the death rate reduced to a minimum.

WAR AND THE EUGENIST

The economist, the political idealist, the moral enthusiast—leaders in all branches of thought, will regard the present war with doubt and misgiving. But none will deplore it so deeply as the eugenist. The man with visions of race improvement, the believer in the hereditary transmission of physical characteristics, must behold the destruction of the

strong and hardy, the preservation of the weak and infirm. He is convinced that the physical improvement of the peoples of Europe will, as a result of the conflict, receive a century's setback. His fears are well grounded; his faith has the justification of history. Napoleon's fatal genius clouded all Europe with the gloom of war, wrecked commerce and industry, crushed political freedom. But worst of all, and most lasting, was the blow to the manhood of France. That was reparable only through the course of centuries.

The devastation of humanity is still the most terrible exaction of warfare. Progress in civilization, in political, economic and personal freedom is dearly bought, if it be attained only at the price of physical deterioration.

RECOMMENDATIONS OF DOMINION PUBLIC HEALTH CONFERENCE

AT a conference of Dominion and Provincial health officers, held in October, 1910, at the invitation of and in conjunction with the Public Health Committee of the Commission of Conservation, the following reports and recommendations were submitted by the various committees of the Conference:—

COMMITTEE ON CENTRAL COUNCIL AND NATIONAL LABORATORY.

The report and recommendations of this committee were as follows:

1. That, in its opinion, the needs of Canada demand that a permanent national council of health be established, to be composed of—

(a) An officer representing each Branch of a Federal Department engaged in Public Health Work.

(b) A representative from the Public Health Service of each Province or Territory.

2. Such council shall hold one annual meeting at Ottawa and such other meetings at Ottawa, or elsewhere, as may be deemed expedient, at the call of the Commission of Conservation. Additional meetings may also be called through the Commission of Conservation at the request of the Ministers administering public health of any three Provinces or Territories.

3. Such Council shall—

(a) advise regarding the harmonizing of existing Public Health legislation in Federal or Provincial Statutes;

(b) advise as to passing of new legislation or regulations in the interest of Public Health, whether Federal or Provincial;

(c) advise as to the nature of work best administered by Federal, Provincial and Municipal Health authorities;

(d) advise as to the work to be conducted by such National Health Laboratory as may be established or that is being conducted in such laboratories as are now engaged in Public Health work;

(e) advise Federal and Provincial Governments as to steps to be taken when epidemic disease threatens or appears within or without Canada;

(f) and generally to advise on such questions of Public Health as may from time to time arise;

4. That a National Public Health Laboratory be established—

(a) to investigate public health problems;

(b) to manufacture sera, vira, vaccines, toxines, anti-toxines and other analogous products;

(c) to supervise the manufacture and importation of all sera, vira, vaccines, toxines, anti-toxines and analogous products offered for sale in Canada, whether designed for use in the detection, prevention, treatment or cure of diseases of men or animals or obtained therefrom;

(d) to investigate through its technical officers questions relating to—

1. the pollution of streams;

2. the preparation, preservation, inspection and sale of foods and drinks;

3. the housing conditions as regards lighting, ventilation, heating, etc., of public buildings, schools, manufacturing plants, residences, tenements, etc.;

4. research work and the investigation of any other special matters which, from time to time may arise affecting Public Health.

5. That the Commission of Conservation be requested to send an officer to study and report upon the work and expenses of such laboratories in the United States, upon the methods of distribution and sale of the various products, and the initial cost of establishing such a laboratory.

(Sgd.) F. MONTIZAMBERT, M.D.,
Convener.

CANADIAN PUBLIC HEALTH LABORATORIES

For the maintenance of efficiency in and with the object of co-ordinating the several branches of the Government service which relate to the health of the people, it is necessary that the officers of the Dominion Government be kept up to the high standard set by other countries, particularly Great Britain, the United States and Germany, where, by the establishment of governmental laboratories, opportunity is afforded for the officials engaged in public health work in these countries to keep abreast of scientific, experimental and research work by training and employment therein from time to time.

At the present time, the Dominion Government has several laboratories established in connection with different branches of departmental work, notably that of the Department of Agriculture, under the direction of the Veterinary Director General, where experimental and research work relating to diseases in animals has efficiently been carried on for some years to the material benefit of the farmers and owners of live stock of all kinds. From this laboratory there has been sent out, either free of charge, or at a nominal price, biological preparations of different kinds for the prevention and treatment of diseases in animals.

In nearly all the provinces, the Provincial Governments have well equipped laboratories (chemical and biological) under the direction of

the health authorities for the benefit of the public; but their use is restricted to the examination of water, sewage, and pathological specimens relating to communicable diseases.

There are no laboratories in Canada such as are suggested in the first paragraph of this memorandum; and information given to the public and the medical profession is derived from foreign sources, *i.e.*, from laboratories maintained for this special purpose by national governments or by private funds. This is much to be regretted as there are conditions existing in Canada which can only be intelligently studied and the facts deduced, properly applied by and through the medium of a national laboratory.

In the case of some of what may be termed the newer communicable diseases to be found on this continent, our only source of information and our only authority to which we can turn for guidance and direction is to the laboratories of the Public Health and Marine Hospital Service at Washington.

We have not in Canada anything even approaching the experimental and research laboratories maintained by the city of New York; and at the present time, for the treatment of rabies in the human being, we have to look to the laboratories at Washington and New York for the Pasteur treatment, while in the case of this disease in animals, provision is made in the laboratories of the Department of Agriculture in Ottawa.

Again, nothing is being done in the Dominion to study the great and important question of cancer, of which 2,500 of our people die annually. This subject alone is worthy of consideration as an important factor in deciding upon their establishment.

In establishing public health laboratories for experimental, research, and manufacturing work, the Government would not in any way conflict with the work now carried on by some of the provinces, nor would it duplicate any work of the universities.

As to the production of antitoxins and other biological products, the methods to be adopted would be along similar lines to those relating to the laboratories of the Veterinary Branch of the Department of Agriculture which, for some years has manufactured and supplied, either free of charge or at actual cost, several biological products used in veterinary medicine.

The chief biological product in use in general medicine in all portions of the Dominion is diphtheria antitoxin, although many others are in use. Owing to their excessive cost, however, the demand is limited. One in particular, Antimenigitis Serum, it will be almost impossible shortly to obtain as the Rockefeller Institute has intimated that its manufacture in its laboratories will be soon discontinued. Further, the preparation of vaccines to combat diseases due to gonococci, streptococci, staphylococci, colon bacilli, typhoid bacilli, and other bacteria, is daily becoming more urgent, if the modern methods of medical practice are to continue in this country.

The cost of production of diphtheria antitoxin as reported by both the State Boards of Health of the State of New York and of the city of New York, is six cents per 1,000 units, while the retail price, as quoted by the leading American producers, is \$2.00 per 1,000 units; the retail price of 5,000 units, which is a usual dose, being \$7.50, as against the

actual cost of 30 cents; while the syringe container costs the above mentioned Boards of Health 18 cents each, a cost of 48 cents per dose, as against \$7.50, that now paid by the public.

If this antitoxin could be manufactured in a Public Health Laboratory and supplied at cost to the physician, its use would be greatly extended for immunizing purposes, thereby lessening the incident of diphtheria and reducing the death rate from the disease.

Again, in the case of tetanus antitoxin, the present charge for each treatment is not less than \$25.00, while the New York State Health Department manufactures it at a cost of 60 cents per treatment.

As a fair guide to what might be expected of the laboratories of the Dominion of Canada, the output of that of New York State may be taken as a fair criterion, viz: 36 million units of diphtheria antitoxin—to produce which it requires at least twelve horses, in addition to which there are some 200 guinea pigs, with rabbits, etc.

The requirements for the establishment of such laboratories as outlined, would be:—

Capital Account:

(a) A suitable building, one unit, at a cost of	\$ 10,000	
(b) Fitting and apparatus	5,000	Capital
Other supplies and animals	3,000	\$18,000

Annual Charges:

(c) Staff:—One director	\$2,000 – \$3,000	
2 skilled bacteriologists (with medical education)	1,500 – 1,800	Annual cost approximately
1 skilled physiological chemist	1,500 – 1,800	\$10,000 to
2 laboratory helpers, 1 stableman, and helper	2,000 – 2,500	\$12,000

Taking the output of the two laboratories mentioned as a fair average of what diphtheria antitoxin might be sent out from a Dominion Public Health laboratory, we find that 6,000 doses of 5,000 units each were distributed by both the State and City Departments of Health, which, at the retail prices previously quoted, represents \$45,000; while the actual cost, including containers, would be in the neighbourhood of \$3,000.

The great benefit accruing to the people generally by reason of the research and experimental work is of such a character that it is impossible to estimate its worth in dollars and cents.

In regard to the various biological products sold but not manufactured in Canada, there is no Government control or inspection—no guarantee as to their efficiency, such as is exacted by the Federal Government of the United States, which controls and licenses the various laboratories located in that country which manufacture for human use. The paper presented by Dr. Higgins before the Conference of Health Officers recently held in Ottawa shows the great discrepancies existing as between the stated value of the several products used for veterinary treatment over which the United States Government exercises no control and that actually found to exist. We have no guarantee that similar discrepancies do not exist in respect to the biological products as sold in

Canada for use in human beings—a contingency which would not occur if the Canadian Public Health Laboratories were established as recommended.

TABLE SHOWING THE VARIABILITY OF ANTI-TETANIC SERUM (*veterinary*)
AS PUBLISHED IN BULLETIN 421 OF THE UNITED STATES
BUREAU OF ANIMAL INDUSTRY

	Manufacturer	Exchange date	Laboratory number	Labeled to contain	Contain
1	H. K. Mulford.....	May 1, 1910	2,960	500,000	615
2	Parke, Davis & Co....	May 24, 1910	.....	not stated	1,250
3	H. K. Mulford.....	May 15, 1910	2,960	500,000	607
4	Pasteur Laboratories, Paris, France.....	.....	.....	.....	1,000
5	Lederle Antitoxin Laboratories.....	June 10, 1910	19A	1,500	1,601
6	Parke Davis & Co....	Dec. 8, 1910	.....	.....	1,250
7	" ".....	" "	.....	.....	1,250
8	" ".....	Jan. 14, 1911	.....	.....	1,000
9	H. K. Mulford Co.....	May 15, 1910	2,971	500,000	472
10	Pasteur Laboratories, Paris, France.....	.....	.....	.....	1,110
11	" ".....	.....	.....	.....	1,530
12	H. K. Mulford Co.....	May 1, 1910	2,960	500,000	607
13	Lederle Antitoxin Laboratories.....	June 21, 1910	19A	1,500	1,972
14	Pasteur Laboratories, Paris, France.....	.....	.....	.....	1,530

COMMITTEE ON TUBERCULOSIS

1. That the Federal authorities give substantial assistance both for supporting and carrying on such work already in existence and to encourage the establishment of new sanatoria and hospitals for consumptives.

2. That, with a view to encouraging and assisting tuberculized persons and their families, the Commission of Conservation take early steps to secure from the different Governments areas of Crown lands in localities recognized as being climatically favourable for the cure of tuberculosis, such areas to be set apart for colonies of tuberculized persons and their families for settlement under such conditions as may be found practicable.

3. It is suggested that, in the event of any system of workingmen's insurance being established by the Federal Government, provision be

made whereby tuberculized persons, if recipients of sick benefits, be required to take advantage of such sanatorium treatment as circumstances may permit of.

(Sgd.) C. J. FAGAN,
Convener of Tuberculosis Committee.

AIR SUPPLY FOR SLEEPING ROOMS

ROOM overcrowding is a very different thing from land overcrowding; but here, too, there are difficulties in the way of establishing arbitrary standards. What constitutes room overcrowding? The only standard that has been adopted heretofore on this continent has been the standard of a minimum amount of cubic air space. In most cities this standard has been 400 cubic feet of air for each adult, and 200 cubic feet of air for each child under twelve years of age occupying a room. Such a standard is valueless. To illustrate: A bed-room seven feet wide, ten feet long and nine feet high contains 630 cubic feet of air. Let us assume that it is well lighted and ventilated, by a large window opening directly on a broad street, and that the room communicates with other rooms with sufficient windows and thorough ventilation. No better bedroom could be devised from the point of view of health and sanitation, and yet, under such a requirement of law a man and his wife, or two boys fourteen years of age, could not legally sleep in this room, because there would not be 400 cubic feet of air for each occupant.

If 400 cubic feet of air is not the proper minimum, what is the proper minimum? Shall it be 600 or 800 or 200 cubic feet? Study of the problems involved leads to the conclusion that not only the question of cubic air space must be considered, but that far more importance must be attached to the kind of air supplied to the room and the *frequency of its renewal*. It would be much better to permit a family to sleep in a room containing but 400 cubic feet of air of excellent quality and frequently renewed, than to permit them to sleep in a room, containing four times the air space, where the renewal was not so frequent nor the source of original supply so satisfactory. It makes a very great difference whether the air comes from a broad street or from a narrow alley, from a large backyard or from a narrow airshaft. These considerations are generally lost sight of in the discussion of this problem. This question, like that of land overcrowding, cannot be solved by establishing any arbitrary standard.—*Lawrence Veiller.*

BRITISH COLUMBIA SANITARY INSPECTION

That Canada's western province is keeping to the fore in the matter of sanitary measures is evidenced by the fact that the Provincial Health Department has despatched inspectors to the new settlements, mining, logging and construction camps, where there is a lack of sanitary conveniences. Too often very little care is given to cleanliness and health precautions in these temporary establishments, and it is with a view to a thorough investigation of their condition that the present inspection is being made. Reports so far received show very satisfactory results of the government's watchfulness.

INDUSTRIAL ACCIDENTS AND THEIR CAUSES

SAFETY appliances without number and accidents increasing in frequency at an alarming rate are developments of the present day industrial conditions.

The increasing danger to life and limb involved in the pursuit of industrial occupations has become so great as to render imperative some means of educating employees respecting the risks to which they are exposed and the measures which they may take, and which to a large extent are in their own hands, to minimize the dangers of their occupations.

The toll of human life exacted in factories, mills, and workshops, on the farm and in the lumber camps of Canada has reached such proportions as to compel our provincial governments to consider the question. They are endeavouring to meet one phase of the situation by the introduction of workmen's compensation acts, which attempt to place the responsibility for accidents.

Investigation into the causes of many accidents has proven conclusively that a great percentage of them can be avoided by the adoption of preventive means and by education along preventive lines.

The principal causes of accidents may be summarized as follows: Absence of safeguards, defective machinery and lighting, unsafe structures, insufficient room, uncleanly conditions, over-zealousness, carelessness and ignorance.

For the majority of these causes the employer is, in great measure, responsible. Far too many employers are interested in their plants only for the amount of net revenue derived therefrom under present working conditions and, consequently, they will not invest the necessary capital to equip the plant with safety devices and sufficient lighting, or provide means for keeping the premises in a cleanly condition. Although the provincial factory acts require such equipment, and although factory inspectors may suggest and order improvements, unless the employer can be made to realize that the changes are suggested in his interests, very little practical result can be accomplished.

In the case of accidents, however, the workman is perhaps his own worst enemy. As investigation has consistently shown, the employee is responsible for his own injuries or for injury to others to a far greater extent than many suppose. It is not suggested that this is deliberate; on the contrary, it is due to carelessness in leaving dangerous exposures, in taking chances not required for the fulfilment of duty, and to neglect of ordinary precautions in the pursuit of occupations. Moreover, many personal injuries are caused by over-zealous employees, in placing personal safety secondary to increase of production.

Education along safety lines is the only method of overcoming this distressing condition. In this educational work the co-operation of employees must be secured and safety committees organized. Fellow-employees can do a great deal to influence workmen to be more careful, but the initiative in the movement must come from the employer. A word from the employer to the effect that he values safety above extraordinary output would do much to reduce the number of personal accidents, and when an employer shows that he is interested in the personal security and safety of his employees he has gone a long way toward winning their confidence and respect.

SAFETY IN ELECTRICAL INDUSTRIES

ELECTRIC light and power companies are coming to the fore with other large manufacturing concerns in advocacy of the new and broad principle of "Safety First" among employees. The National Electric Light Association, one of the largest organizations of electrical companies, including practically every company of importance in the United States and Canada, is especially active in this humane propaganda. A special "Safety First" pamphlet, published by a committee of the association, gives minute details of organization measures and of rules for the guidance of employees in the electrical industry by means of which they may render their employment less hazardous.

Some of the members of the association have already put into effect measures affording greater protection to and seeking the co-operation of their employees in safety work, and results are already apparent.

The suggested code of rules in the "Safety First" campaign is as follows:—

Don't take a chance when handling electrical circuits and apparatus. Be sure you are right before you proceed with your work.

If you are in doubt about the proper performance of any work which you are to do, don't take a chance.

Consider all electrical circuits and apparatus alive until you have assured yourself that they are dead.

Persons unfamiliar with electrical circuits or apparatus who have to work directly or indirectly for the service company in proximity of same must be warned by the service company's representative in charge of the work of the dangers to which they are exposed.

Any person whose duty does not require the handling of electrical circuits and apparatus must not come within proximity of or tamper with such electrical circuits or apparatus.

No person should be permitted to handle electrical circuits or apparatus until he has been instructed therein.

Use the safety devices provided but do not rely entirely upon them. Safety devices may get out of order or become ineffective.

Remember personal caution is the greatest safeguard after all.

PERSONAL SAFETY.—Men engaged in the handling of electrical circuits and apparatus should cultivate the habit of being cautious and should wear clothing suitable for the work in which they are engaged. Especially should they avoid using finger rings, chains, loose clothing and, as far as possible, any metal parts in their wearing apparel.

EYE PROTECTORS.—On work where the eyes may be subject to an injury from flying particles, men should wear suitable eye protectors or safety goggles.

On work where the eyes are subject to injury from an electric arc, the eye should be protected by eye protectors or safety goggles with deep violet coloured lenses and with frames preferably made of non-metallic and non-inflammable material.

SAFETY BELTS.—Safety belts should always be worn by men working on overhead lines.

INSULATING SHIELDS OR COVERS.—When men are working in the immediate proximity of live circuits or parts with which they may inadvertently come in contact, they should first cover these live circuits or parts with a suitable rubber shield or other guard.

MANHOLES.—If the cover is removed from a manhole, the opening should first be tested as to the presence of gas and must then be properly guarded by a railing and danger sign or red flag. An additional man stationed at the opening is always advisable.

OVERHEAD STRUCTURES.—Before climbing a pole, scaffold or other overhead structure, the employe should first make sure that such pole, scaffold or other overhead structure is safe.

TOOLS.—The handles or all hand tools should be covered with rubber tape or other suitable insulation to prevent slipping and to reduce the opportunity for short circuits.

Such tools should be periodically inspected as to their suitability for work.

RESUSCITATION.—In cases of unconsciousness resulting from electric shock or asphyxiation, the prone pressure method recommended by the commission on resuscitation should be used, and all men handling electrical circuits and apparatus should thoroughly post themselves in regard to this method.

At a recent meeting of the Tramways Association of Great Britain, a suggestion was made regarding the introduction of rubber or some other silent material for street car tires, with the object of eliminating noise and vibration.

A public institute for the manufacture of vaccine and the teaching of sero-therapeutics has been established in Quito, Equador. Fifty thousand dollars has been appropriated for two years, with provision for necessary upkeep thereafter.

The corporation of Leeds, England, in making an appropriation for public band concerts, also included the purchase price of 500 folding seats. These are rented at two cents each during the band performance, and while the seats are a great convenience, the small charge pays for the handling of the chairs.

In the annual report of the sanitary inspection division of the Winnipeg Board of Health appears the following: "The great majority of our citizens are supporting us in our efforts, thus showing that the educational work of the last few years carried on by means of fly films, lectures, talks in the schools, and the press has had good effect."

The importance of the registration of sickness, in connection with the reports of vital statistics, may be summarized in the words of Dr. Lyon Playfair: "The record of deaths only registers, as it were, the wrecks which strew the shore, but it gives no account of the vessels which were tossed in the billows of sickness, strained and maimed, as they often are by the effects of recurrent storms. Registration of sickness would tell us of the recurrent storms and enable us to trim our vessels to meet them."

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Conservation of Life

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European countries, unfortunately, know only too well the evils that have arisen from want of foresight in town-planning. . . . Considering the terrible lessons that are so forcibly impressed upon one by these experiences in older countries it would be nothing short of a national disaster, if, for the want of proper forethought, a similar state of things was permitted to come into existence in Canada, which is essentially a land of wide spaces, where there should be breathing room, not only for the present population, but for a nation ten times as large. . . . I think, however, it is not out of place to utter one word of warning. If the question is to be dealt with effectively, there must be no delay. The evil must be grappled with at once and drastically. . . . The whole question, too, is one in which prevention is far more effective than cure.—*From address of welcome by H.R.H. the Duke of Connaught, Toronto Conference, 1914.*

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INTRODUCTION

THIS issue of Conservation of Life is devoted to Town Planning and Housing. An endeavour has been made to give a general understanding of the objects of town planning, and to explain the close connection between town planning, housing and public health.

The aim has been to give an introduction to the above subjects and at the same time enable readers to grasp the object and scope of the proposed activities of the Commission of Conservation in regard to them. In a later issue it is hoped to deal with these matters in more detail, especially from the financial point of view as they affect Canadian conditions.

There are several factors which make the present an opportune time to engage in the preparatory work required before we can take adequate steps to comprehensively plan the cities and towns and generally improve housing conditions and public health in Canada. For instance, the need for maintaining a high standard of physique in our population is specially evident at this critical juncture in the affairs of the Empire. There is also the fact that the proper time to do preparatory work in connection with town planning and housing is during a lull in building operations such as we have at present in Canada, and perhaps a more important consideration is the likelihood that this lull will be followed by a period of great activity and rapid growth in our cities after the close of the war. Now is the time to prepare for that growth and to take those preventive measures which are alone effective in securing amenity, convenience and proper sanitation in connection with the development of land.

Planning should not be confined to the cities and their suburbs, but should also take into account the urgent need for good roads in the rural districts. The principal rural highways should be properly planned as well as properly constructed, and their alignment should be determined as part of a skeleton road scheme for each province, in which regard would be paid to the future growth of the towns along or near to each main route. Improved highway communication is becoming more and

more necessary to enable full advantage to be taken of rapid motor transit, to facilitate the distribution of agricultural produce, and to enable the homes of the people to be spread over wider areas.

Moreover, at the present time of financial stringency in connection with municipal affairs, it is desirable to draw attention to the wastefulness of the haphazard methods of developing land now in vogue, and to the economies which proper town planning would secure. Town planning will save money and give an added security to municipalities in regard to finance. What is perhaps more material in the long run is that it will help to conserve life and to raise the standard of physique throughout the Dominion.

TOWN PLANNING AND HOUSING REFORM IN CANADA

A GREAT deal has been done in Canada in recent years to improve public health and to draw attention to the need for better housing conditions, but there is need for more enquiry and extended effort on the part of all who are interested in conserving human life and raising the standard of public health.

A comparatively new country, such as Canada is, has peculiar difficulties to contend with, but it has also peculiar opportunities. It can learn much and derive benefit from the study of conditions in older countries, and at comparatively small expenditure of money it can take steps to prevent the creation of evils which when once created can only be remedied at great cost.

HOUSING REFORM

Most people are acquainted with examples of bad housing and bad sanitary conditions in one form or another. All civilised countries suffer from these conditions, and no measures have been taken to remedy them which can be accepted as suggesting a basis for a council of perfection in regard to what is called housing reform. But in some countries, notably in Great Britain, partial remedies have been found for the evils of bad housing and a high standard of sanitation has been attained. In so far as the attempts to remedy existing bad conditions have been unsuccessful up to the present, it has been largely due to the fact that the bad conditions have been of such a long established character that their removal has to be a matter of gradual change over a long period of time. The change has to take place in the habits and opinions of the people themselves, as well as in the improvement of their housing conditions. In Canada we have allowed some conditions to grow up which are not what they should be, which are, in fact, as bad as they are in older countries, but we have still time to take advantage of the lessons which other countries have to teach us, and it will be well to do so before we

allow the community to accept their present unsatisfactory conditions as inevitable or permit those who suffer from them to become habituated to them.

In any case it will be generally agreed that there is room for enquiry into housing and sanitary conditions, and that there is much that should and could be improved, even if the matter is considered solely from the utilitarian point of view.

But apart from the question of remedying existing evils it is of urgent importance that steps should be taken in this country of rapidly growing urban communities to prevent their recurrence in future.

It can be said with a greater measure of truth with regard to housing than perhaps with regard to any other social question that "prevention is better than cure." What has been done in this latter direction in England points the way to a very real and very substantial success.

TOWN PLANNING

Preventive measures in connection with housing evils may all be included under the term "town-planning." As popularly understood in Canada and the United States, town planning does not appear to have much connection with housing, but this is due to an erroneous impression of what town planning is. That may be because the term itself suggests to the mind the mere embellishment of the external features of the town or city, such as the architectural qualities of its buildings or the efficiency of its transportation, and does not convey any idea of the extent to which it enters into the fundamental aspects of city life and growth. Or it may be because the idea of what is meant by the term has been gained from the kind of town planning that has been chiefly prevalent in some countries, such as Germany and the United States, which has concerned itself for the most part with the external and grandiose in city development. But whatever the reason it is an error to assume that town planning concerns itself solely with any one thing connected with improvement of a town either as regards its external appearance, its sanitation or its convenience. In the sense in which it is used in Great Britain and in the sense in which it has lately come to be understood in America it covers everything connected with the city and concerns itself with everything that has to do with the health and well-being of the citizens. In that broad aspect it is really more important than the housing problem, or the sanitary problem, or the transportation problem, since it includes all these and more, and provides the only satisfactory method of studying and dealing with the inter-relation of these problems with one another.

WHAT A TOWN PLANNING SCHEME MAY INCLUDE

The comprehensive and constructive character of a town planning scheme in Great Britain will be gathered from the following table of the contents of the Ruislip-Northwood scheme. The scheme deals with an area of 5,900 acres, or over nine square miles, of land lying within the 15-mile radius of the centre of London. It consists of a map or plan and 88 provisions, and, having been approved by Parliament, it can virtually only be altered by its consent.

The map of the scheme fixes the lines and widths of the main arterial roads, the position of all open spaces and parkways, the positions of the residential, shopping and factory areas, and the general layout of the town in all its bearings. It includes provisions with regard to:—

New Streets (width, direction, position and how cost is to be met)

Widening existing streets

Adjustment of street boundaries

Naming of streets

Relaxation of local by-laws

Submission of all plans and subdivisions to local authority

Minor modifications of plan if circumstances change

Diversion and stopping up of existing highways where necessary

Appropriation at agricultural rates of land for garden allotments, cemeteries and public open spaces

Reservation of land for private open spaces, and proper maintenance of same

Donation of land by owners to local authority (90 acres) in exchange for certain privileges granted

Fixing of building lines on all streets to secure adequate air space, protection of trees, and room for further widening of streets if and when necessary

Fixing of proportion of building subdivisions which may be covered by shops (half of area), dwelling houses (third of area) and other buildings

Minimum cubic space per person to rooms, minimum window space in proportion to floor area, and limitation of projections from main buildings

Limitation of the number of buildings to each acre (a maximum of 12 houses on the average and 20 houses on any one acre is prescribed)

Height of buildings (maximum 60 ft. to eaves, and in no case higher than width of street)

Delimitation of areas which may be used for factories, shops and residences

Size of living rooms (minimum 500 cubic feet)

Character of design of buildings

External larders for food; separate closet accommodation for each family; prevention of nuisances in gardens

Prohibition of advertisements which interfere with amenity

Height of fences

Recovery of half of any value which is given to the land by making of the scheme.

These are some of the matters covered by this one scheme, but their importance is only realised by taking into account the powers given under the scheme to prevent unreasonable claims for compensation. In the first place, during the three years while the scheme was being prepared, no owner could erect any building or enter into a contract which would contravene the proposed scheme. For instance, he could not erect a building on any site without consent of the local authority.

Secondly, no claim could be made for damage caused to property by fixing (1) building lines, (2) limiting the number of buildings to each acre, (3) preventing the erection of factories or shops on certain parts of the area, (4) limiting height or prescribing the character of the design of buildings, etc., if the Local Government Board decided that these things were reasonable for *the purpose of amenity*. Thus no overcrowding is permitted, either in regard to the amount of building on an area or in regard to the number of persons per room,^r and no person can claim compensation because he is thus restricted.

An important point in connection with this and other schemes in England is that it deals with land in the area of more than one local authority. The Ruislip council, which is preparing the scheme, obtained the consent of the Local Government Board to the inclusion of part of the area under the jurisdiction of the Watford council. With this consent it was able to prepare a scheme in respect of an area which included land outside its own district. Under the scheme, however, as prepared the Watford council is made responsible for carrying out the scheme for its own part of the area.

The scheme was carried through with the consent of practically all the owners, and it is claimed that the benefits it confers upon them are in excess of any loss they may suffer, notwithstanding that the public health gains immeasurably. Under such conditions slums become almost an impossibility without any cost to the community. The practical effect of the scheme in regard to the housing question is still to be tested, but it may be claimed even now that most of the evils of existing housing conditions will be prevented by its operation.

COST OF A SCHEME

The cost of preparing the scheme and the maps, obtaining the consent of the Local Government Board and Parliament, over a period of three years is given as \$5,000. The chairman of the council has stated that seldom has a local authority obtained so much for so little outlay. Its ultimate cost to the council over the next 30 or 40 years will probably be about \$150,000, but for this it will have obtained advantages of incalculable worth, healthy housing conditions, streets of ample width, 120 acres of public parks, pleasant amenities, security for owners of large residences, preservation of natural features, architectural control, etc. Moreover it will only have paid for these benefits as the increase of the assessable value of the property provides the local authority with additional resources for that purpose. It may be claimed that the council will gain direct monetary value for all its expenditure without counting the indirect social advantages of the scheme. This is because of the fact that it has used preventive measures under the powers given by the British Parliament in regard to matters which are usually neglected until it is too late to remedy them at reasonable cost. We thus see the supreme advantage of a preventive as distinguished from a remedial scheme.

TOWN PLANNING NOT A REMEDY FOR ALL SOCIAL EVILS

The above may not include all the matters which deal with isolated housing or sociological evils which are known to the reader, but they deal with all such matters as could be foreseen and provided for in the district to which they refer, and they indicate not the limits of a scheme, but its possibilities.

Considered in this broad sense we see the extent to which housing reform is linked up with town planning. Every person who has interested himself in housing conditions knows how difficult it is to suggest any remedy for particular housing evils because of the vicious circle of cause and effect, the connection between the housing question and all matters related to the cost of land and its development.

Of course it would be folly to claim that town planning is a means of solving all problems connected with city life or social conditions. For instance, it can have no direct bearing on the important economic question of the relation between the wages earned by the worker and the contribution he pays for shelter, although indirectly it has a bearing even on that problem, in that it prevents the worker being taxed (and he is frequently heavily taxed), both for the costly remedies which have to be applied by nearly all towns to remove evils which have grown up owing to lack of foresight and wise planning, and for the losses entailed by failure to employ science and discrimination in the designing of streets and buildings. Between 1910 and 1914 rents in Canada increased by 35.9 per cent, an increase which is quite out of proportion of the increased cost of labour. It may be claimed with reason that much of this increase is due to waste in the method of developing land and that it could be avoided by proper town planning. In any case, it is no reason to neglect to take advantage of the direct economic benefits of town planning, as well as those that result in securing a proper standard of comfort and public health, because it does not solve every social problem. In greater or lesser degree it touches every social problem and in view of the rapid urbanisation of the people in the Dominion, and the ease with which town planning can be applied, it should be dealt with as an urgent matter.

WHAT SHOULD BE DONE

The present is an appropriate time to proceed with the preliminary work in connection with town planning. This preliminary work can be done by municipalities or specially appointed commissions without waiting for legislation. Some idea of the course which should be pursued may be gathered from the following report, which has been submitted to the Vancouver Civic Centre Committee, with regard to the planning of Greater Vancouver. The suggestions contained in this report are such as are likely to be suitable for application in most populous areas in the Dominion. These suggestions are intended to indicate some of the steps which should be immediately taken by those who are persuaded that town planning is desirable, and who only require some indication of the right course of action to pursue.

REPORT ON THE PLANNING OF GREATER VANCOUVER*

To the Vancouver Civic Centre Committee.

Gentlemen:—During my recent visit to Vancouver I was impressed with the beauty of the site on which your city and the adjacent populous centres are growing up, and with the need which exists for the preparation of a comprehensive plan of the whole area comprised in what may be described as Greater Vancouver.

The site is unique both in regard to natural beauty and business prospects. The populous group of districts, which include Vancouver, Point Grey, New Westminster, N. and S. Vancouver and their environs, is suffering in a special degree from haphazard growth and speculation in real estate, notwithstanding the progress that has taken place in the last few years in regard to the control of sanitary matters and local improvements. There is need for co-operation between the administrative authorities and the chief land and railway interests, for the mutual benefit of all concerned, and principally with a view to securing that Greater Vancouver will enjoy the benefits of wise foresight exercised in proper time.

However excellent separate schemes may be for creating civic and university centres, new harbours, railway terminals, industrial areas and means of transportation, they will all lack the chief quality of a proper city plan if they are not considered in relation to one another and in relation to the general business interests and health of the citizens. Important as are the needs of the immediate present they can only be properly and adequately provided for if consideration is given to their relation to the future growth of the whole area likely to be used for building purposes in the next 40 or 50 years. It may be impossible to precisely forecast how any city or group of cities will grow in regard to minor details of development, but it is quite feasible to consider and lay down the main lines along which growth may be directed and so save the taxpayers of the future the heavy expense of remedying evils which are allowed to accumulate as a result of undirected and misdirected growth.

It is insufficient to consider a plan for the city of Vancouver alone, and it is not desirable at the present time to formulate a plan which will involve either Vancouver or any of the adjacent municipalities in any expense which they would not have to incur apart from a plan. But the small cost of having a plan prepared should be faced and there is no time more appropriate for its preparation than the present. In London, which is more critically situated than any other city in the Empire in connection with the war, plans are now being considered for the future development of an area of nearly 1,000 square miles. No less than 137 administrative authorities are concerned in that area, and all of them are joining in conference to formulate a plan for the main arterial roads of Greater London. What is practicable under such conditions and with so many local authorities should be more practicable and more easy of

* This report is printed as a supplement to the article on "Town Planning and Housing Reform in Canada," as the suggestions it contains may be suitable for wider application.

accomplishment in Vancouver and neighbourhood. The small cost of making a preliminary survey as the basis for a comprehensive plan will be fully justified by the immediate results and by enabling the authorities to carry out schemes of local improvement on sound and economic lines. It is a suitable time to give employment in such work and to determine the main features of a plan before building activity is resumed.

What seems to be desirable is to form a Commission to consider the whole question of the future development of Vancouver and the neighbouring municipal areas and to suggest, if necessary, new legislation to enable such a plan to be carried out. Such a Commission should be representative of all the authorities having jurisdiction in the area which should be planned, and of the principal railway and real estate interests. Its first duty should be to prepare a topographical map of the area and to make a survey of existing conditions, next to suggest a comprehensive scheme showing the best lines for main arterial roads, desirable railway and harbour improvements, suitable industrial areas, and general provisions for convenience, amenity and proper sanitation. The scheme should not enter into details but merely give the broad outlines.

There are two courses open to us in Canada in connection with the planning of our cities. The first and preferable course is that which has been adopted in Great Britain. It is to secure effective town planning legislation and thereafter to formulate a town planning scheme conforming with the requirements of that legislation. It is essential that the legislation provide machinery for a certain amount of oversight and assistance by a provincial authority, in order to secure practical and effective co-operation between adjacent municipalities, and arbitration on points of difference. It is of the essence of town planning that all municipalities in juxtaposition to one another should cooperate and agree on a harmonious system of development and control, and also that some independent authority should act as arbitrator in those cases where the common good comes into conflict with the interests of property. It follows that in proper town planning it is desirable to have a higher authority than the municipality to act as a sort of Court of Appeal, and that such authority should be a part of the machinery of the Provincial Government. The necessity of such an authority will only be fully realized when town planning is carried out in practice. Cases occur where the linking up of two districts by main roads is found to be as important as the development of roads within each separate municipal area, and when the ratio of expenditure to be incurred by separate authorities has to be determined. In such cases agreement is generally impossible without appeal to an impartial tribunal free of local interests. It is also essential in connection with town planning to have some general principles settled as to the density of building on land, heights of buildings and selection of residential and industrial areas. For one municipality to settle these for its own area is not enough as its whole scheme may break down owing to the want of similar provisions being applied on the borders outside its area. Hence the need for legislation and a provincial department to make certain important matters of general application and to secure co-operation.

The defect of this suggestion may appear to be that it would interfere with local autonomy, but in practice this is not the result. It is

found to be practicable to give a local authority more discretionary power under such circumstances, it links the city management with the provincial management, and it gives added value to the security offered by the city when funds are needed.

However that may be, the initiative in legislation does not rest with the various city authorities, although they might suggest to the Provincial Parliament the need for and the proposed scope of such legislation.

The second course is one which is immediately open to the city and town authorities themselves. It is to voluntarily co-operate with its neighbours in appointing a commission to formulate a scheme. What is meant by a scheme is not merely the presentation of a plan on paper showing the main arterial roads, the desirability of this or that architectural treatment of buildings, and the need for improvement of what might be called the "frills" of the city. These things may be important in their place, but the defect of many schemes is that they only include such matters, and that they usually involve large expenditure of money. This defect frequently arises from the fact that the plan itself and not the scheme for giving it effect is regarded as the essential thing.

In preparing a scheme regard has to be paid to the essential features and functions of the city or group of cities. In the first place, a city is a manufacturing or administrative centre and the first concern of a town plan should be to provide for the proper and efficient carrying on of business. Complementary to the business side of city life is the provision of satisfactory and healthy living conditions for the people. Thus the factory and the home are the two essential and most important considerations in planning the city. Interlaced with these, but always secondary, are the numerous questions relating to transportation, education, recreation and administrative centres. The preparation of the plan or scheme need not involve the municipalities in any expenditure beyond the cost of preparing it. Its chief value to them will be as a guide showing how money can be saved and how, when spending becomes necessary, it can be wisely spent. Much can be secured without cost by agreement and co-operation with owners when both the public authority and the owners have a scheme to follow.

The present condition of each city and town should first be carefully studied and maps and diagrams prepared showing the topography of the area, the traffic conditions and density of population, the location of factory and residential areas, the relation of cost of sites of dwellings and factories to cost of development, and of both items to the assessable values. After that, certain general principles should be determined and a scheme of provisions drawn up to secure effective control of both the built upon and unbuilt upon area. Different provisions will, of course, be necessary for areas already developed and for those not yet built upon. Then, but not till then, should the skeleton plan be prepared illustrating the proposals and as a key to the provisions of the scheme. It is a mistake to draw up a plan and leave the question of a scheme for carrying it out severely alone; it is only when the legal form of a scheme is settled that the practicability of a plan can be realised.

In some other Provinces of the Dominion steps are being taken to promote town planning. In Nova Scotia, New Brunswick and Alberta Town Planning Acts have been passed. In Ontario the City and Suburbs

Act provides that subdivisions of land in cities of over 50,000 inhabitants must be approved by the Railway and Municipal Board and that they must, as far as possible, conform with a general plan of development. In Saskatchewan there are provincial regulations which require that all roads and surveys must be approved by the Board of Highway Commissioners before they can be registered. In Calgary, Edmonton and other cities comprehensive plans have been prepared, and in Winnipeg a Greater Winnipeg Plan Commission has been at work for some time. A Planning Commission is also preparing a scheme for Greater Ottawa. The Winnipeg Commission is working on an area of 200 square miles with the object of preparing a comprehensive plan. The Commission realizes that before it can make its plans effective it will require to have legislation in Manitoba, but the work it is doing is of great value in enabling its members to judge what legislation is required. No legislation is likely to be effective without the help of the municipalities in first preparing maps of existing conditions and making surveys of their areas, and this is work which can be undertaken to advantage without further delay. The value of having a topographical map prepared may be gathered from reports showing the recent experience of Cincinnati and San Francisco. In Cincinnati it was lately reported that no less than 200 miles of sewers were discovered, as a result of a survey, of which the city had no record. The City Engineer of San Francisco has said that \$26,000,000 was the cost of certain improvements which could have been avoided had the planning of the city been adjusted to the topography, and that this was merely a part of the expenditure that would have to be incurred.

I submit these considerations to you with all deference and without knowledge as to whether your Committee is the proper body to approach in the matter. I trust they will be accepted merely by way of suggestion and that you will be good enough to bring them before the proper authorities. I have sent copies to their Worship the Mayors of Vancouver, Point Grey, New Westminster and North and South Vancouver.

I am,

Your obedient servant,

THOMAS ADAMS,

Town Planning Adviser.

GARDEN CITIES

SOMETIMES town planning is confused with what is known as the garden city movement. The two things are quite different although there is a sense in which they have some resemblance. Town planning in Britain deals with the control of city or town development, including housing and sanitation, by legislative enactment. It is carried out by the municipalities with government assistance, for the proper regulation of new growth in existing cities. On the other hand the garden city is the creation of private enterprise. Among its underlying principles are that the new city has to be planned from the beginning and that proper provision has to be made for adequate air space and good

sanitation, and in these respects it may be regarded as having a close resemblance to town planning. But there are equally important principles in connection with the garden city which do not form a necessary part of town planning schemes. These are:

(1) Acquisition of a rural estate for the purpose of establishing an entirely new and self-contained town.

(2) Reservation of the increased value given to the land so acquired, due to its conversion from agricultural into building land, for the benefit of the community, less such portion of the profits as are necessary to provide a reasonable return upon the money invested.

(3) Removal of factories and work-people from crowded centres to the new town.

(4) Restriction of the area set apart for the town and the permanent retention of the remainder for agricultural purposes.

In connection with the planning of the area the same results are aimed at as in town planning schemes, namely, proper sanitation, convenience in connection with the lay-out of the land, adequate air space and the preservation of amenities.

PLAN AND GROWTH OF LETCHWORTH

The plan given in the illustration on page 61 shows the lay-out of the Garden city at Letchworth. This is the only Garden city, although there are several private schemes which come under the categories of garden suburbs and garden villages. The land for the Letchworth scheme was purchased in 1903. It now comprises about 4,500 acres, and is situated 36 miles from London. Over 20 factories have been established, and the population exceeds 8,000. The factory area is limited to the hatched portion on the map which lies on the east side of the town. This secures that the factory smoke will blow away from the residential portion. The land and roads, water, gas, electricity, and sewage works are all owned by a company, which is in effect a body of trustees acting for the community.

In this small town of 8,000 inhabitants the sanitation is as good as in the largest cities in England and the death rate is about 8 per 1,000, as against over 15 per 1,000 in Canada, including rural districts.

In 1903 there were no buildings in the area shown on the map except farm buildings, no railway station, and few roads. In addition to the factories, there are now over 1,600 houses, many miles of new roads, an up-to-date system of sewerage and a pure water supply connected to each house. The land was acquired at \$200 per acre. In 1907 the company had spent about \$1,250,000 in purchasing and developing the estate, and in that year obtained an independent valuation of the property. This valuation showed an appreciation of upward of \$650,000 over the expenditure incurred. The interest payable to the shareholders is limited to five per cent and all further profits will be used for the benefit of the community.

The plan shows that the main arteries have been laid out to accommodate the traffic for all time, one central avenue being from 100 to 150 feet in width, while short residential roads are made narrow so as to keep down the cost of development in connection with the smaller classes of

Continued on page 64.



RUSHBY MEAD, LETCHWORTH

Working class houses adjoining factory areas rented at from \$6 to \$9 per month. The walls are of brick, covered with rough cast, and red tiles are used for all roofs. The low rents are made possible by the cheap form of road construction, which is quite adequate for domestic needs, there being no through traffic on this road. The position of the road is indicated on the plan at "A." The backs of the houses are as pleasant and tidy as the fronts which face a public park. The total cost of the land, inclusive of charges for road, sewer, etc., is about \$2,000 per acre, or \$200 per house.



A FACTORY NEED NOT BE UGLY

It is just as important that men and women should have healthy workshops as healthy homes. Note the pleasant architectural features of this factory and the open surroundings.

dwellings. The healthy conditions in which the workmen live may be gathered from the illustration given of one of the groups of cottages situated on a narrow street. The position of this street is shown on the map at the point marked "A."

ECONOMIC ADVANTAGES OF SCHEME

The economic advantages of the scheme are also indicated by the low rents paid, which cover a supply of pure water and proper sanitation. An important feature of the city is the architecture and healthy surroundings of the factory area. From a purely business point of view it is found that an open situation for a factory, where there is adequate light and air, and room for gradual expansion, is of great value to the manufacturer. The concentration of the factories also leads to economy in regard to the cost of distributing power and transporting goods. As the accompanying illustration of one of the factories shows, it is also proved that factories need not be ugly. Gas and electricity are supplied at low rates. Large open spaces have been reserved, together with a permanent belt of land round the town to be used for agriculture only. The town is growing rapidly and has become a paying proposition.

The advantage of planning a town from the point of view of affording protection to the amenities of the site without any loss in building value may be seen from the view of Letchworth lane. In a Canadian town it would be necessary for the community to buy the property abutting on such a lane to enable it to be preserved. By proper planning the lane is reserved as one of the features of the plan and houses are erected on its frontages without destroying its charm. There are equally fine natural features in Canada which are worthy of preservation but which cannot now be preserved except either at excessive cost or in positions where they are inaccessible to the public.

COULD A GARDEN CITY BE CREATED IN CANADA?

The question has been asked as to whether such a scheme could be carried out in Canada. No doubt it could. There are innumerable sites suitable and conveniently situated for the purpose. There is a greater disproportion between the value of agricultural land and building land than in England. Factories are on the increase and workmen have not got the same sense of being tied to one district as in England. There is greater need for improved sanitation and a pure water supply at low cost which could be obtained if the proper selection of the site were made. Rents are higher in proportion to the cost of building, and population is increasing rapidly. What has been done in England in this connection should be more easily and more profitably done in Canada. It might only be of value as an object lesson and, therefore, one garden city might suffice, but its value, even as an example of what could be done, would be incalculable. The matter is certainly one which should be considered. An English writer on the subject of garden cities says that it is in the colonies that the immediate lessons of garden city may be taken most readily to heart. "So far," he says, "we have seen in the new countries only a repetition of the many follies committed in nineteenth century Europe, but it is not too late for a more far-sighted and enlightened policy, if not to undo the mistakes already made, at least to prevent their further perpetration."



PRESERVING NATURAL FEATURES

In Canada as in England opportunities frequently occur for preserving pleasant natural features. In a town planning scheme, a lane such as the above can be preserved in its natural condition without any loss in the proper use of the land. Imagine this lane cut up by the real estate operator to fit in with rectangular sub-divisions or even widened to double its width in order to comply with the by-laws. Just as fine features are being destroyed in Canada owing to the present stereotyped method of development.



WORKING CLASS HOUSES IN CANADA

Both in regard to the natural beauty of the sites and in regard to a cheap and picturesque form of construction there are as good opportunities for creating pleasant and healthy suburbs in Canadian cities as in Europe. But all the value gained from nature is lost by the unsightly back buildings, untidiness of the yards, and the absence of good sanitation. Those things that cost least and that mean most to the health of the people are frequently disregarded.

THE COMMISSION OF CONSERVATION AND TOWN PLANNING AND HOUSING

THE important bearing of the twin subjects of town planning and housing upon the conservation of life and natural resources in Canada has led the Commission of Conservation to establish a new branch of its work and to appoint a town planning and housing adviser. To properly appreciate the scope and limitations of the new branch of the Commission thus created, it is necessary to bear in mind what are the scope and objects of the Commission itself. It is not an executive body and it has no power to make or administer laws. Its duty is to advise the executive authorities, from the Dominion Parliament downwards, regarding legislative and administrative policies affecting all questions concerned with conservation of the natural resources of the Dominion. Being the creation of Parliament and non-party, as well as influentially representative in character, its advice will always carry great weight. It thus becomes obvious that before making recommendations to the legislative authorities, it should make thorough investigation into facts and theories, and in this connection it is necessary that it should have the help of skilled advisers.

From its inception the Commission has taken a broad view of its functions and of what is meant by the term "natural resources." The chairman of the Commission, in his inaugural address in 1910, said: "The physical strength of the people is the resource from which all others derive value. Extreme and scrupulous regard for the lives and health of the population may be taken as the best criterion of the degree of real civilization and refinement to which a country has attained."

Having regard to this conception of the scope of the Commission in matters relating to public health, it is evident that one of its principal duties must be to investigate and advise on the subjects of town planning and housing. This has been fully recognized by the Commission, as its work and annual reports bear witness. But it is considered desirable to extend its research operations and to bring together a collection of scientific data, which has not been practicable without a special branch devoted to the subject. Up to the present time town planning and housing have been officially dealt with in the department of the medical adviser of the Commission. These subjects will not now cease to be matters for study and investigation from the medical point of view, but, in their broader aspects, embracing, *inter alia*, the economic, the engineering and the architectural, as well as the medical, they will now be dealt with by a special branch under an expert adviser.

The twin subjects of town planning and housing have to be carefully investigated, as a special Canadian problem, and not as one which may be prejudged as necessarily having any similarity to that which exists in other countries.

The rapid urban growth within the Dominion makes it desirable that consideration should not only be given to the questions of curing evils and altering conditions already established in municipalities, but that the best methods of avoiding the repetition of these evils, and the

creation of worse ones, should be thought out, so that preventive measures can be devised.

The two aspects of the problem, *i.e.*, the remedial and the preventive, will require to be considered together, but different courses of treatment will have to be devised in connection with each.

The legislation of Great Britain on town planning has so far commended itself to the Commission as the best basis for legislation in Canada, and a draft Town Planning Act has been prepared following the British precedent. This draft will require further discussion and amendment before it can be presented to the Provincial Governments as representing the final views of the Commission on the subject of town planning. It will also be necessary, in considering both questions, to consider the proper kind of provincial machinery required for the administration of any new legislation and to make suggestions to the Provincial Parliaments under that head.

A new Housing Act should also be framed as soon as possible as a model for the Provincial Legislatures, but much investigation into housing conditions will be necessary before a satisfactory Act can be framed to deal with the housing problem.

Visits will be paid to all the provinces and many of the cities in the Dominion in connection with these investigations, and opportunity will be taken in connection with these visits to arrange conferences with representatives of Provincial Governments and municipalities to discuss the many points which will have to be considered especially in regard to their local or provincial application. Incidentally the town planning branch of the Commission will be glad to give advice to municipalities with regard to town planning schemes of their own.

Ultimately when new legislation is passed, the Commission, through its officers, will be prepared to advise both as regards amendments of the legislation and as to its practical working in the various municipalities in Canada. As the Commission will be quite free from judicial and administrative duties, it is hoped that the officers of the Commission will, by their thoroughness, judgment, and impartiality, so commend themselves to the administrative authorities as to obtain their confidence in arbitrating on matters of difference caused by the practical working of the new legislation.

It will be an object of the Commission to endeavour to persuade all the provinces to adopt Town Planning and Housing Acts, based on the same general principles, but differing in detail only so far as may be necessary to meet the varied conditions and needs of different provinces. Three of the provinces have passed Town Planning Acts, namely, Nova Scotia, New Brunswick, and Alberta, but for the present, the machinery does not appear to have been provided to make them effective. It will be one of the duties of the Commission to make suggestions as to the proper steps to be taken to put the existing Acts to the fullest and best use, and to make recommendations to the different provinces as to the amendments which it may be necessary to make in their Acts to secure harmonious and uniform legislation throughout the Dominion. It is

felt that the Provincial Departments will welcome the co-operation of the Commission in regard to these matters.

Those responsible for this branch of the Commission's work will be at the disposal of all provincial and municipal authorities as well as owners of land and other interested persons or associations, in the matter of supplying data and giving advice respecting the different aspects of town planning and housing. Collections of literature, maps, photographs and slides will probably be made and placed at the disposal of those able to make use of them, with the object of bringing the utmost light to bear upon the subject.

Although it may be assumed that the Commission has convinced itself of the need for town planning and housing legislation, this must not be taken to mean that it is organising a new branch for the exploitation of preconceived ideas on the subject. As already stated, the first duty of that branch will be to investigate facts and in the performance of that duty it is important that the work should be started with an open mind, that every view should be heard and considered and that no private interest should be disregarded.

It is hoped that bodies and persons interested in either town planning or housing will co-operate with the officers of the Commission in collecting information regarding conditions in the Canadian cities and towns and assist them in arriving at the right conclusions as to the best means of solving the problems which are incidental to urban growth.

HOUSING IN GREAT BRITAIN

NOTES REGARDING THE POWERS AND DUTIES OF ENGLISH MUNICIPALITIES

In considering the question of housing in Canada no doubt regard will be paid to the experience of other countries, and particularly to that of Great Britain. The following notes, for which we are partly indebted to the Municipal Year Book, briefly indicate the procedure under the Housing Acts in England, and will enable those who are interested in the matter to compare this with the procedure in Canada, and to judge how far the latter is inadequate. The Acts also apply to Scotland and in part to Ireland. The principal English Housing Acts are those of 1890, 1900 and 1909. The latter includes a part dealing entirely with town planning, which, for the purposes of these notes, may be ignored.

The matter may be conveniently dealt with under four headings:

- (1) How to get large slum districts condemned,
- (2) How to deal with small slums,
- (3) How to get more workmen's dwellings,
- (4) Progress under the Acts.

(1) HOW TO GET LARGE SLUM DISTRICTS CONDEMNED

Provision is made for the clearing of large unhealthy areas in urban districts, and for carrying out improvement schemes for such areas.

It is the duty of the medical officer of health, either when he sees proper cause, or when two or more justices, or twelve or more ratepayers in his district complain of any unhealthy area therein, to inspect such area and report thereon. If he represents an

area as not unhealthy, the ratepayers may appeal to the Local Government Board, which may secure an independent report, on which the local authority must act.

When an area is declared unhealthy, the local authority, that is, the municipality, if possessed of sufficient resources, must make an improvement scheme. If it fails to do so, it can be made by the Local Government Board and forced by mandamus. The local authority may pull down buildings, clear out the area and make or widen any necessary street.

Compensation has to be based upon the fair market value of the property, without any additional allowance for compulsory purchase, due regard being had to the nature and condition of the property. Deductions have also to be made in respect of any enhanced value given to the property by reason of its improper use or owing to overcrowding or bad state of repairs. Compensation has to be settled by an arbitrator.

Provision is also made in the Acts for rehousing persons displaced by the erection of public works, railways, etc.

(2) HOW TO DEAL WITH SMALL SLUMS

Provision is made for the inspection of every sanitary district from time to time, the object of such inspection being to locate all houses unfit for habitation. Records of inspection have to be kept. Any dwelling house represented by any officer of the local authority as being unfit for habitation may be ordered to be closed. There is an appeal against closure to the Local Government Board, without recourse to a court of law. Unhealthy houses may be demolished, but a closing order has to remain operative over three months. In any contract made by the landlord at rentals varying, in part according to the districts, from \$80 to \$200 per annum, it has to be in an implied condition that such houses are fit for habitation. Obstructive buildings may be removed and buildings reconstructed.

Cellar dwellings are now deemed to be unfit for human habitation, if

(a) the surface of the floor is more than 3 feet below the surface of the nearest street, and

(b) it is not on an average of at least 7 feet in height, or does not comply with regulations prescribed for securing ventilation, lighting, freedom from damp, etc.

(3) HOW TO GET MORE WORKMEN'S DWELLINGS

Local authorities have wide discretion in the matter of carrying out schemes to build houses for the working classes. They require to give no proof of deficient housing accommodation, but can build at any time they deem advisable, provided, as is the case with all municipal work in England, the Local Government Board will sanction the necessary loans.

How to get land.—Land can be purchased compulsorily, either inside or outside a district of the local authority, prices to be at fair market value without any allowance for compulsory purchase, and has to be determined by a single arbitrator appointed by the Local Government Board.

How the land may be used.—The land may be leased to companies or builders or to working men, or the Council may itself erect houses or shops, purchase, improve, or reconstruct existing houses or purchase or exchange land for the purpose of encouraging others to do so.

Power is also given to the local authority to sell houses after a period of seven years.

Under the Small Dwellings Acquisition Act of 1899 power is also given to local authorities to advance money to residents to purchase their own houses. The amount borrowed must not exceed four-fifths of the market value, with a maximum, in all cases, of \$1,100.

How money is obtained.—Provision is made for councils to either borrow from the Government, or issue stock, or borrow on security, at rates subject to (a) the Local

Government Board's consent, (b) period of repayment not exceeding 80 years, (c) money so borrowed not being reckoned as part of the debt of the local authority under the regulations which limit the ordinary borrowing of municipalities. It is provided that interest on loans for long periods shall not be greater than for short periods.

Public Utilities Societies (that is those limiting their dividend on capital to 5 per cent) may also borrow up to the two-thirds value of land and buildings. The rate of interest charged is about $3\frac{3}{4}$ per cent, and the terms of repayment range from 30 to 50 years more in such cases.

General.—Four inhabitant householders may petition the Local Government Board, stating that houses are needed in a district, and if the Board finds, after enquiry, that this is so, and the municipality fails to provide the houses, the Board may require it to do so.

Each county council has to appoint a medical officer of health, whose duties are prescribed by the Local Government Board, and who cannot be removed without the Board's consent.

(4) PROGRESS UNDER THE ACTS

Since the passing of the Act in 1909 there has been considerable activity in housing matters in England. Under the section which requires that houses shall be in a satisfactory state of habitation before being let 114,357 notices were served by local authorities up to March 31, 1912. Of these 3,629 were closed by landlords, who did not consider it worth while to put them into repair, and 84,822 were repaired to the satisfaction of the local authority. In the case of 323 houses, the local authority executed the work in default of the landlord, and the balance of 19,434 were undisposed of at the above date.

With regard to the closing and demolition of houses, the following figures show an increasing activity from 1909 to 1913:

	1909	1910	1911	1912	1913
Number of houses in respect of which representations were made.....	6,312	6,429	24,429	47,429	55,827
Number of houses made satisfactory for habitation by owners without use of a closing order.....	3,731	3,056	7,042	13,417	18,080
Number of houses closed or demolished voluntarily.....	1,510	1,389	1,419	1,935	2,157
Number of houses in respect of which closing orders were made.....	587	1,511	4,870	9,761	10,701
Number of houses in respect of which closing orders were determined..	*	274	732	2,108	2,870
Number of houses demolished by owners without orders for demolition.....	*	*	534	1,072	1,556
Number of houses in respect of which orders for demolition were made.	196	170	495	1,423	2,190

*Figures not available.

The foregoing information with regard to the action of the local authorities under the Housing Acts indicates that these Acts have resulted in a very large number of houses in England, previously unsanitary and in need of repair, being made fit for habitation.

During the two years ending 31st March, 1913, no less than 109,931 houses were put into repair either by the landlord or the local authority.

Local authorities have also borrowed the following sums for the erection of houses under Part III of the Working Houses Act of 1890, since the beginning of 1910:—1910, \$535,660; 1911, \$527,075; 1912, \$2,363,070; 1913 (eleven months) \$2,498,685.

There were also applications for further loans for \$2,330,000 from 68 local authorities. Thus the total amount sanctioned and under consideration for 1913 was \$4,828,655.

Housing Societies had also borrowed \$3,664,005 for housing purposes during the above four years.

To realize the full extent to which the Acts operate in improving housing conditions it is important to remember that all the work which is being done in England under the Housing Acts is in addition to that which is carried out under the Public Health Acts, and, further, that for every house repaired or made sanitary by compulsion several are likely to be repaired or made sanitary voluntarily by the land owners. Legislation of this kind is perhaps more important because of its indirect results than because of its direct results. What is done in Canada in regard to the improvement of housing and sanitation is less than is required to be done under the Public Health Acts in England alone, *i. e.*, apart from anything required to be done under the Housing Acts to which the foregoing figures relate. This fact only requires to be stated to show how necessary it is for the matter to receive urgent consideration in the Dominion.

TOWN PLANNING

SUMMARY OF WHAT MUNICIPALITIES CAN DO

1. *Map and Survey*

(a) Prepare map of existing conditions in city or town and environs, showing areas already built upon, and physical features.

(b) Enquire into existing conditions as regards industrial development and location, transportation, housing, distribution of population, defects of by-law administration, local improvements, building lines, width of streets, air space, heights of buildings, etc.

2. *Town Planning Scheme*

(a) Prepare skeleton map showing main arterial roads and suggestions regarding transportation facilities, zone map of industrial and residential areas, building lines on existing and proposed streets, open spaces, sites of civic and educational centres and other general proposals—without consideration of detailed development of sub-divisions.

(b) Prepare scheme of provisions setting out the regulations under which it is proposed to carry out the plan, the principles on which it is proposed to fix building lines, height and character of buildings, widths of streets for different purposes, proportion of areas occupied by buildings, air space in houses, etc.

NOTE.—Before the second step is taken enabling legislation should be secured from the Provincial Parliament on the lines proposed in the Draft Town Planning Act of the Commission of Conservation. The first step should be taken forthwith by all municipalities and the work done will be good investment apart from town planning.

Canadians who are interested in the questions of securing healthy cities, good roads and improved housing in the Dominion are invited to send information to the Town Planning Adviser of the Commission of Conservation at Ottawa regarding conditions in their localities.

In connection with the work of investigation of existing conditions, it may ultimately be considered desirable to promote housing surveys in different towns and cities, and suggestions as to the questions which should be asked and as to the need for such surveys will be welcome.

Particulars of housing schemes such as those being carried out by the Toronto Housing Company are also desired for review on a future occasion.

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Conservation of Life

PUBLIC HEALTH, HOUSING AND TOWN PLANNING

*Quarterly Bulletin issued under the direction of the Commission of
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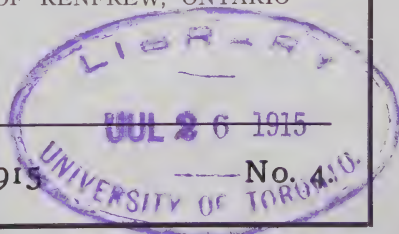
*"Hill, dale and shady wood, and sunny plains and liquid lapse of murmuring
streams."—JOHN MILTON.*

VIEW OF A BEAUTIFUL AND STILL UNSPOILED RIVER
VALLEY IN THE TOWN OF RENFREW, ONTARIO



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JULY, 1915



No. 410



VIEW OF TOWN-PLANNED PORTION OF EDINBURGH

This view shows the Waverley Station and approaches. On the Mound in the foreground are the Royal Scottish Academy and Royal Institution. Beyond is the gothic Scott monument opposite the business front of Princes street. The building with the clock tower is the North British Hotel and the turreted building on the side of Calton Hill is the city gaol.

The dominant features in the sky line are towers and monuments—not skyscrapers with chimneys and water tanks on the roofs. Here nothing is sacrificed in the matter of utility, but beauty is gained along with utility. Edinburgh is the capital of a comparatively poor country with a population of less than five millions; it has no parliament and no permanent Royal residence to contribute to its public buildings. The new part of the city here illustrated was planned in 1767, and was mostly built during the nineteenth century. The city is amongst the lowest rated in Britain. It has gained largely in wealth because of it has been attractively planned and built.



Conservation of Life

Vol. I.

OTTAWA, JULY, 1915

No. 4

PUBLIC HEALTH AND THE WAR

THE minds of most men are centered at the present time on the problems connected with the devastating war in Europe. The supreme task which confronts the British Empire, and Canada as an important part of the Empire, requires the concentration of all the thought and energy that can be given to its accomplishment. It is a difficult time, therefore, to arouse interest in social problems which are in need of solution. Indeed, there are some people who question whether the present is an appropriate time to discuss them. And yet, when we enquire deep enough, it seems as if no time could be more appropriate for those to give attention to them who are unable to assist the cause of the Empire in a more direct way. Problems which have arisen since the war commenced have shown us the vital importance of public health and of the efficiency of human labour. Who can measure the enormous debt which the British army to-day owes to the public health legislation of the past 40 years? That the standard of physique has been raised by improved sanitation and housing is without question. The value of this on the battlefield has been seen in recent months. In our workshops and factories physical and mental efficiency are needed as they never were before, and what has been accomplished by the past generation in purifying our water supplies, in making city life healthier and cleaner, and in educating our workmen is now yielding abundant harvest. In some directions we might have been better equipped than we are. In spite of the progress we have made we might have paid more regard to health and to conservation of life than we have done. Bad housing and sanitary conditions have contributed to the loss of tens of thousands of young lives in Canada alone which might have been saved to the Empire if we had paid more regard to public health requirements.

The errors or rather deficiencies of the past should be our inspiration for the future. Healthier conditions of life in our cities are needed now to aid us in finishing this war; they are needed even more to build up reservoirs of strength for the future. Then too, the men who are sacrificing themselves at the front will have to be replaced, and large gaps will have to be filled. To prevent avoidable disease and death is to contribute to the source of that real strength of the Empire which to-day is undergoing its supreme test.

In regard to finance, the war is affecting our whole political and municipal structure throughout Canada. We need to conserve our national resources, to encourage production, to reduce waste and unhealthy speculation. To accomplish these tasks successfully we must plan for the future, so that our towns may produce healthy citizens and be ready to face times of stress and storm as well as times of prosperity.

THE MEANING AND PRACTICAL APPLICATION OF TOWN PLANNING

THAT there has been a good deal of confusion in the public mind regarding what is meant by "town planning" is partly due to the fact that the term itself does not adequately express the meaning intended to be conveyed by those who originated the town planning movement. A brief description of the history of the term may help to elucidate its meaning.

The town planning movement was very different in its origin to what is known in the United States as "city planning," and some reference to that difference will help the object of this article. For that purpose we have to ignore the actual meanings of the words "city" and "town," and treat the two terms "town planning" and "city planning" as conventional phrases that respectively describe two somewhat different movements—the first originating in Britain and the second in the United States. "City planning" in its more modern application probably had its genesis in the grouping and spacious lay-out of the buildings erected for the Chicago Exhibition in 1893. Springing from such a source it has developed into a movement for remodelling existing cities, especially in regard to the grouping and situation of their public buildings and parks. It has therefore been more concerned with the replanning of towns as they now are, rather than with the planning of new parts of towns or of new towns. The work of most City Planning Commissions in the United States, and the American impress which has been given to the work of some City Planning Commissions in Canada, such as that of the city of Ottawa, has been along these lines. As a means of providing an imaginative picture of what might have been, or of what could be if financial conditions permitted, it has fascinating features. But as a means of helping to solve the pressing economic and public health problems of our cities it has so far proved itself of comparatively little value. To accomplish that task we have to approach the planning of the city from the point of view of the administrator and the medical officer as well as from that of the artist and engineer.

BROADER MEANING OF TOWN PLANNING

The term "town planning," which originated in Britain, takes up the subject in this broader sense. Its chief attraction to Canadian cities at the moment arises from the fact that they are face to face with the need for conserving their financial resources, for improving the home life of the people, and for stimulating industry, as essential features of any scheme of planning for the future. This does not mean that the æsthetic features of town planning are to be ignored. These æsthetic features are of two kinds, the one concerned with the preservation of natural and spacious surroundings to all buildings in the city and the other with the creation and grouping of beautiful public buildings. The former can be attained without much cost by proper planning and the exercise of foresight in the lay-out of the land; it is part of the problem of combining healthy living conditions with a sound economic

system of land development; it is a necessary part of a plan based on utility. The æsthetic features which have to be created at large public expense are, however, necessarily of the nature of luxuries, however important or desirable they may be in the building up of the ideal city. It is these latter features which take first place in many city planning schemes, with the result that such schemes fail to be of much practical value. City planning is a failure so far as it is solely concerned with the erection of beautiful buildings and the remodelling of existing streets and transportation systems, on the lines of the Chicago city plan, if these things are beyond the financial resources of the community which has to carry out the plan. On the other hand, what is known as the British system of town planning is concerned with laying healthy foundations for future growth by the exercise of wise foresight in regard to all problems of the city, including, of course, architectural and engineering problems, and in doing so to aim at conserving the resources of each community rather than in increasing its indebtedness by expensive schemes.

Some writers appear to assume that the modern British system of town planning had its origin in the Prussian Building-lines Act, which, by the way, is not a town or city planning act in any real sense. The title of the German Act is *Fluchtliniengesetz*, meaning Building-lines Act, and the only other term it contains with any reference to "plan" is "*Bebauungsplan*" or simply "plan." "*Stadtplan*" *i.e.*, town-plan, does not occur.

ORIGIN OF BRITISH TOWN PLANNING ACT

The terms "town-plan" and "town planning" probably were first used in a descriptive sense to the movement in 1906 by Councillor Nettlefold in a speech delivered by him in Birmingham, and in the November following the phrase was employed by a deputation which approached Sir Henry Campbell-Bannerman, the then Premier of Great Britain, to urge the desirability of passing a Town Planning Act. The Town Planning Act, which was prepared by Mr. John Burns, and passed through the British house in 1909, was the ultimate outcome of that representation. We have to retrace our steps, however, to understand the origins of the movement. To a certain extent they arose from a study of German practice in controlling city development, a study started by Mr. Horsfall in his book on "The example of Germany." As a result of that study there arose a movement as strongly opposed to some of the results of German practice as it was favourable to other results. Behind the imposing fronts and palatial public buildings of German cities, which were secured by autocratic control of building operations, there was known to be appalling housing conditions,—as bad as anything in Europe outside of some of the Slav cities of the south—and one of the points urged in connection with the need for town planning legislation was that it should deal with sanitation and amenity in connection with housing conditions as one of its most important features. Moreover, there had been in operation for some years in England a series of private schemes which had shown how much proper housing conditions could be promoted by town planning. The garden villages of Bournville and

Port Sunlight, the garden city of Letchworth, the garden suburb of Hampstead and the schemes of Lord Lytton, Sir Richard Paget and other private landowners, all showed the way to a better system of developing land than had been possible under the by-laws which had controlled building operations in England since the Public Health Act was passed in 1875. It was really as a consequence of these schemes, stimulated to some extent by systems of building control in Italy, Sweden and Germany, that the Act of 1909 was framed.

TOWN PLANNING SEEKS TO PREVENT RATHER THAN CURE

Thus it was that this Act had for its general object the securing of "proper sanitary conditions, convenience and amenity in connection with the laying out of land." That object, applied in a liberal and comprehensive way, means that it embraces all questions connected with new urban growth, whether it be in the suburbs of existing cities, towns and villages, or in the form of new cities, towns and villages. Only in an indirect way does it touch the question of remodelling existing conditions. It seeks to prevent rather than to cure,—its primary object being to create satisfactory conditions for the future.

But although this emphasis has to be placed on the principal object of town planning, its value is not confined to areas undergoing the process of development for the first time. Proper planning helps to secure greater equality of land values by reducing heights of buildings and improving systems of transportation; it decentralises the demand for land and lessens the need for crowding the unhealthy central areas. It makes the suburbs more attractive to live in, improves the environment and raises the sanitary standard of the small house. As the sanitary standard is raised unhealthy houses can more easily be condemned. It therefore helps to solve the problem of existing bad conditions by a flank attack which is more economical and valuable than a direct attack—and which makes direct measures easier to accomplish when they have to be resorted to.

Owing to the fact that the remodelling of existing conditions is almost prohibitive in cost in most cities this form of indirect attack upon the evils of unsanitary housing, congestion, and bad traffic conditions must be resorted to if we are to succeed.

TOWN PLANNING FOR HEALTH, ECONOMY AND BEAUTY

We thus arrive at some general idea of what town planning for public health, economy and beauty means. It may be re-stated as follows:—

1. The planning of all new building areas, whether entirely new towns or extensions of existing towns, for health, economy and beauty, regard being paid to the fact that the business necessities of towns are of first importance.
2. Indirectly attacking the causes of existing bad conditions, as a result of the effect of town planning in moderating high land values in the more crowded centres, in improving transportation and thereby facilitating healthier and cheaper housing in the

suburbs, and in encouraging development on horizontal rather than on vertical lines.

3. To a certain extent remodelling existing towns by the indirect effects of planning suburban areas and by direct improvements carried out by a gradual and economic process.

One difficulty has arisen in connection with the term "town planning" in Canada. It is found that it is a matter of difficulty to translate it into French, as there is no phrase in the French language which can be used to express the meaning intended to be conveyed. When town planning laws are translated into French they should therefore have descriptive sub-titles indicating that they have for their object the provision of facilities for enabling schemes and plans to be prepared for (1) new towns, (2) for unbuilt upon areas round existing towns, (3) for areas already built upon undergoing change of character in existing towns, and (4) for the remodelling of areas already developed by indirect means, and, so far as necessary and financially practical, by direct means.

MEANING OF TOWN PLANNING SCHEME

Taking the city of Ottawa as an example, a town planning scheme to be satisfactory should deal with the areas classified above as (2), (3) and (4). It should embrace a scheme and a plan. The scheme is a set of legal provisions setting out the rules and principles governing the method of development agreed upon, and the plan merely illustrates these provisions. A plan without a scheme is of comparatively little value. The scheme and plan should have for their main object the securing of proper sanitary conditions, convenience and amenity and deal primarily with all the vacant land within and in the neighbourhood of the city up to a distance of say five miles from the centre, and, secondarily, with land occupied by temporary buildings likely to undergo change and therefore capable of being regulated without heavy cost. Only after these two areas are planned should questions of replanning or remodelling of areas which are already fully developed be considered. In dealing with the first two classes of areas in this order we make it easier to deal with the third, and it is because we sometimes proceed in the reverse order that we find it impracticable to carry out suggested plans. Moreover, a scheme dealing with the first two areas can be dealt with according to reasonable public requirements without heavy financial commitments, as no vested interests have to be interfered with, whereas when dealing with the third class of area we have to give the question of cost first consideration, as it is almost entirely a matter of curtailing or destroying vested interests.

WORKING TOWARD CENTRE FROM UNDEVELOPED AREAS

It will thus be noted that in preparing a scheme for the combined planning of extensions of existing towns and for remodelling its existing developed area we have to proceed by a method which is the converse of that we would employ in planning new towns. In the former we should plan from the circumference towards the centre, and in the latter from the centre to the circumference—selecting our circumference in each case according to the anticipated growth of the next 25, 50 or more years. In both cases we should of course base our actual plans and

schemes on a skeleton plan of main arterial roads designed from the centre outwards, but that would only be a tentative plan for the guidance of the town planner, and the definite schemes and plans should still proceed in the order of working towards the centre from the undeveloped areas in the suburbs.

The accompanying diagram illustrates some of the points raised in this article, and will help to indicate the importance of town planning,

Commission of Conservation

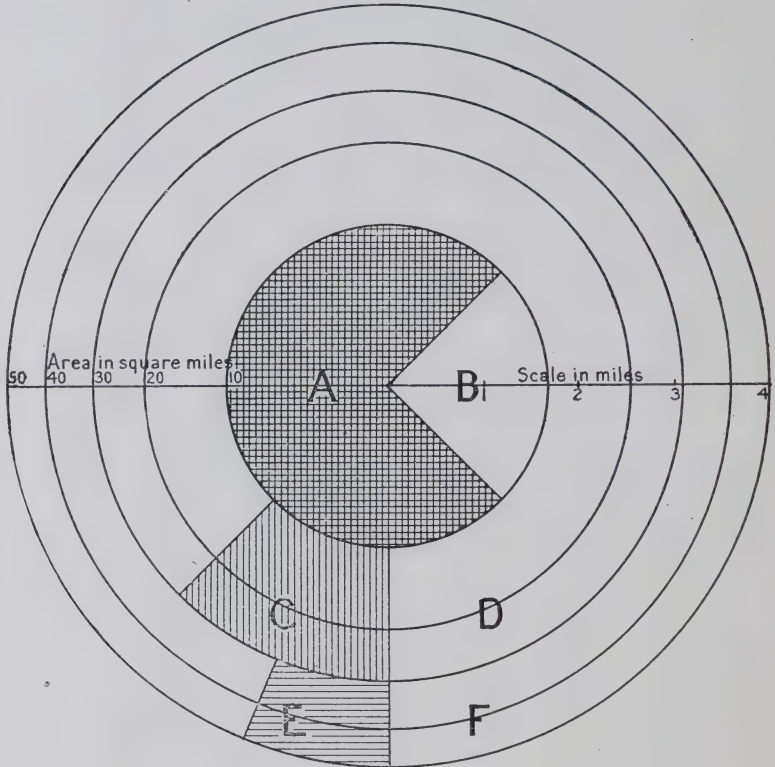


DIAGRAM ILLUSTRATING CHARACTER AND POSITION
OF AREAS ADAPTED FOR TOWN PLANNING SCHEMES

PLATE (1). IMAGINARY CITY AREA WITHIN FOUR MILES RADIUS

Area A-B=10 sq. miles=6,400 acres—Site of Existing City and Suburbs— $\frac{3}{4}$ ths of area built upon.

A=area sub-divided and built upon

B=area sub-divided but not yet built upon, including parks and open spaces

Population at average of 32 persons (seven houses) to acre=153,600

Area C-D=20 sq. miles=12,800 acres—Site of suburban development outside city area— $\frac{1}{8}$ th of area built upon

Population at average of 16 persons ($3\frac{1}{2}$ houses) to acre=25,600

Area E-F=20 sq. miles=12,800 acres—Site of extra-suburban development outside city area— $\frac{1}{16}$ th of area built upon

Population at average of 16 persons ($3\frac{1}{2}$ houses) to acre=12,800

Total Population of City and Suburbs=192,000

and the distinction between town planning and replanning. The diagram shows an imaginary area for a city of 192,000 inhabitants within a circle with a radius of four miles.

The specimen maps illustrating the procedure regulations (see pages 85 and 88) show the character and position of actual town planning areas in two English cities.

For the purposes of the diagram the land already built upon is consolidated, but in a normal case unbuilt upon lots would be scattered throughout the buildings in A-B, and the built upon lots would be scattered throughout the unbuilt upon land in C-D and E-F.

A town planning scheme for this imaginary existing city should deal primarily with the areas B, D and F. The whole of D and F would be included and such portions of B as were necessary for some purpose of the scheme. Small portions of A might be included if some purpose of the scheme affecting B, D and F were to be served thereby, but generally speaking A would be better to be dealt with by piecemeal improvement schemes (see plate No. 2) after the town planning of B, D and F had been effected. As C and E would be scattered units and groups they should all be included unless where they formed definite and completed developments too expensive to re-model under a scheme.

If B, C, D, E and F are planned and the standard of sanitation and housing conditions are raised they will indirectly lessen the difficulty of re-modelling, and help to reduce the congestion in A.

Note that whereas there are only 6,400 acres within about one and three-quarter miles of a centre there are 32,000 acres within four miles. As the circumference recedes from the centre the amount of land brought into competition greatly increases. The total area in the circle would accommodate a population of 1,124,000 people at 32 to the acre, a fact which should make people think who pay high prices for land within a four mile radius. It would take nearly 100 years for this city of 192,000 to fill up the whole area of 32,000 acres—*i.e.*, up to four miles from its centre—even although it increased at the abnormal rate of a progressive 20 per cent. The last owner who sold out his building lot under these conditions, assuming it were sub-divided now and produced no revenue, would require to get 1,000 times its present value at the end of the 100 years to repay compound interest alone at 7 per cent, and so much more in respect of taxes.

By planning the area, and determining the main lines of communication the open spaces, the factory areas, and the density of building to the acre it would be possible to make calculations as to the period within which development would occur and to thus arrive at a reasonable basis for fixing land values—apart from the more direct benefits to be obtained from a scheme.

Plate No. 2 gives an illustration of a re-planning or re-modelling scheme and shows how costly such schemes are. We should not confuse them with town planning schemes as this gives rise to the erroneous idea that the planning of towns necessarily involves the expenditure of large sums of money.

Some towns, such as Prince Rupert, are planned without any town planning scheme being prepared to make the plan effective and of real

value to enable the development to be controlled. A subsequent article describes the procedure to be followed in preparing a proper town planning scheme.



PLATE (2)

Remodelling Scheme. The above plan shows a scheme for remodelling the central district of the City of Leeds in England. This is a remodelling and reconstruction scheme and not a town-planning scheme. It deals with the land in an area similar to that indicated in area A on plate (1). In a small way this scheme is the same as the "city planning" scheme for Chicago, and consists of superimposing a new plan on the existing plan. It is therefore "re-planning" rather than "planning." This class of scheme is remedial in character and enormously costly, whereas town planning is preventive in character and should be less costly than existing methods. Both are necessary but the latter is more urgent and practical and, as argued in the accompanying article, will help to make the former easier of accomplishment. Reconstruction schemes are too costly to carry out to a really satisfactory extent. One short length of widening in the above scheme cost at the rate of \$8,629,280 per mile, which gives some idea both of the cost of carrying out such schemes and of the great saving which can be effected by planning areas not yet built upon.

SANITARY CONDITIONS IN CANADIAN CITIES

I. UNDESIRABLE CONDITIONS NEAR OTTAWA

THERE has been great improvement in the sanitary conditions of Canadian cities in recent years. The work of the Public Health Boards has begun to exercise great influence for good, especially within the areas of the larger cities and towns. We require to do more, however, by means of preventive legislation, as this is more effective and much cheaper than applying remedies to evils that have become established. The better control of undeveloped and partially developed



(1) A lot "For Sale" about 2 miles from the centre of Ottawa but outside the city. Note considerable depth of water on lot lying against foundations of adjoining house.

areas round the outskirts of cities and towns by means of town planning schemes is of urgent importance in order to secure healthier living conditions for the people. The accompanying two views of areas in a township adjoining the city of Ottawa, and in proximity to the best residential neighbourhood of the capital, indicate the sort of development that could be rendered impossible under a town planning scheme.

No. (1) shows a lot on which there was water to the depth of two feet after a dry spell at the end of April. It is stagnant water, full of weeds and garbage, and without any means of proper drainage. No. (2) shows by what means the land is elevated above the marsh to secure a foundation for a building, and represents the rear view of the house (on the right) shown in No. (1.) Garbage from city yards and decomposing material of many kinds has been dumped down on the marshy foundation, and the house is erected on this to raise it above water level. The town planning regulations that would prevent practices of this kind would cost nothing to the community. Those who erect houses under



(2) Rear of lots shown on No. (1). How the level of marshy land is raised for building purposes by dumped garbage.



(3) Dumped garbage along the banks of the Rideau, in proximity to best residential part of Ottawa: about $1\frac{1}{2}$ miles from centre of the city.

such conditions are not only courting injury to the health of themselves and their children but they are providing the nursery grounds for epidemics of disease that cause death and great financial loss. Moreover they depreciate the value of surrounding property. Such land should perhaps not be permitted to be used for building at all, but if it is so used the owners should be compelled to drain it before selling it for

building, and those who erect houses should be made to remove all vegetable matter and put in concrete foundations.

Illustration No. (3) shows an undesirable dumping ground for refuse in the same district. This is a breeding place for flies and disease, and no public authority should allow this sort of pest to exist. Another view of the same dumping ground is shown on No. (4.) The pleasant wooded bank of the Rideau river, on the opposite side, is one of the best residential parts of Ottawa, and this collection of refuse is the foreground in the landscape which is seen from the grounds of the residences of the Premier of Canada and the Chairman of the Board of Health. Further description is unnecessary—the views speak for themselves, and show the need for proper steps being taken to control the use of the land. By-law regulations are not enough—adequate town planning regulations under a proper scheme are required.



(4) Looking across the Rideau towards Ottawa.

TOWN PLANNING IN NEW BRUNSWICK ALBERTA AND NOVA SCOTIA

Explanation of Procedure under Town Planning Regulations,
for information of Cities, Towns and Municipalities*

THE provinces of New Brunswick and Alberta have town planning acts which are almost identical in their provisions. The city of St. John, New Brunswick, is the first city in Canada to decide to go forward with a statutory town planning scheme, and other cities and towns in the province are giving the matter consideration.

*The procedure regulations have to be prepared in each case by the provincial department, which has power to dispense with any regulation if it is satisfied that such dispensation should be given.

In Alberta the need for schemes being prepared is perhaps most pronounced in Calgary, Edmonton, and Medicine Hat. The plans prepared some time ago for the two former cities do not lessen but rather increase the need for action under the provincial town planning act. The following notes on procedure will assist local authorities in these two provinces to understand the procedure to be followed under the Act. The regulations of both provinces are being reconsidered, but no doubt they will largely follow the lines indicated.

These notes may also be applicable to Nova Scotia and other provinces so far as town planning schemes, as distinguished from town planning bylaws, are concerned. Their study will show the simplicity and importance of the first stage. All local authorities in the provinces that have legislation, even although they have no time or opportunity to consider the actual details of any plan for their area, should proceed with this first stage.

I. AUTHORITY TO PREPARE SCHEME

First Stage—Articles 1 to 7

Under the New Brunswick, Alberta and Nova Scotia Town Planning Acts there are four stages of procedure. The first stage is concerned with the application to prepare a scheme, and its sole object is to fix the area and not to determine any details of the scheme. In many respects it is a disadvantage to consider details until after this stage is completed. The regulations governing this stage are comprised in Articles 1 to 7.

For the purpose of this stage the map has merely to show the boundaries of the proposed area and the information to be supplied has to be primarily directed to showing that there are good reasons for including the land shown on the map.

No land can be excluded from the area after this stage is completed. Neither at this stage nor at any subsequent stage can land be added to the area included in the application. Objections at this stage should relate solely to the question of whether the area is or is not a proper one for purposes of a scheme, and whether particular lands should or should not be included. The Minister may consider it necessary to hold a public hearing before giving his authority to prepare a scheme, especially if there are any outstanding objections when the application is made to him.

Section 5 (2) should be noted in connection with this stage. It has the effect of barring claims for compensation "on account of any building erected on or contract made or other thing done with respect to land included in a scheme" after the time when the application for authority to prepare has been made or after such other time as the Minister may fix. Works begun or contracts entered into are excepted. This provision will enable a local authority to prevent any works being carried out or contracts being entered into which might be likely to contravene the scheme.

A period of from 3 to 4 months should be sufficient to carry out this part of the procedure. Every local authority should consider the desirability of promptly taking this first step, as it need not commit



SPECIMEN MAP No. 1

This is a copy of the Map No. 1 which accompanied an application for authority to prepare a town planning scheme for an area in Sheffield. It includes such buildings as are scattered about the area in small groups but does not include the parts of the adjoining city area which is already fully developed. The map may also be used for Map No. 2 (see description of procedure). This simple map showing the boundaries is the only one that is necessary in the first stage of procedure, the details of the scheme being left over to the second stage after authority to prepare has been obtained. All cities, towns and municipalities in Nova Scotia, New Brunswick and Alberta should consider the desirability of immediately proceeding with the first stage.

them to more than the cost of preparation of a scheme, and gives them many advantages in connection with the control of new development.

The most important consideration at this stage is with regard to the question of including land already built upon. The first object of the Act is to deal with unbuilt upon land and "land in course of development," since its chief aim is to prevent bad conditions in future rather than to alter existing bad conditions. With regard to undeveloped areas, a sufficient reason for inclusion may therefore be the general need for having them planned. In respect of built upon land some more specific reasons should be given. In all towns there are portions of areas which are already built upon which it may be necessary or desirable to include in a scheme so as to fit in the plan of the undeveloped parts of towns with the parts already developed. Other portions may be covered with temporary buildings only, or so situated that the buildings are likely to be displaced by others. Such buildings might properly be included in an area, but the local authority has to be satisfied that there is some good reason for their inclusion. Buildings that are scattered singly or in small groups throughout an area which is mostly undeveloped may also be regarded as suitable for inclusion as a general rule.

This explanation will help to show that the general object of a town planning scheme is to deal in a comprehensive way with the future growth of the city, rather than with the re-modelling of past growth except in so far as the latter is a necessary part of the former.

Instead of having one large scheme for land surrounding all sides of a city it may be desirable to have two or more schemes. This matter is to some extent governed by the practicability of getting the area shown on a map of the scale of 24' to a mile. When it is decided to have several areas it might be best to have one on each of the four sides of a town, unless the physical conditions suggest some other division. In determining the area or areas the local authority should ignore the question of ownership and select the land likely to be used for building purposes in from 25 to 50 or more years time. Land outside the municipality can be included.

ORDER OF PRINCIPAL STEPS TO BE TAKEN IN FIRST STAGE

(a) *Preliminary Work*

1. Obtain report as to area or areas to be dealt with—built upon lands to be included for special reasons.
2. Council to select area and instruct preparation of map No. 1 (8" to 1 mile) showing boundaries only, and preparation of statement describing area or areas and setting out reason for selection.
3. Advance notice (if any) to other local authorities.

(b) *Procedure under Articles 1 to 7*

4. (Art. 1) Prepare and issue notices at least four weeks before making application, and on same date deposit map No. 1 at City Hall. Send copy map No. 1 to any authority having jurisdiction in area.
5. (Art. 3) Consider any objections and confer with objectors and others during the four weeks or more.

6. (Art. 4) Pass resolution to apply and complete a map No. 2 or convert No. 1 into a combined map No. 1 and 2. Transmit copy resolution to Minister. (Note. In most cases map No. 2 will be the same as map No. 1 but it requires to be numbered specially in any case).
7. (Arts 5, 6 and 7) Send in application with documents and information, and on same date advertise date of application and resolution.
8. Public hearing (if any) by deputy of Minister. Decision of Minister.

II. PREPARATION OF SCHEME

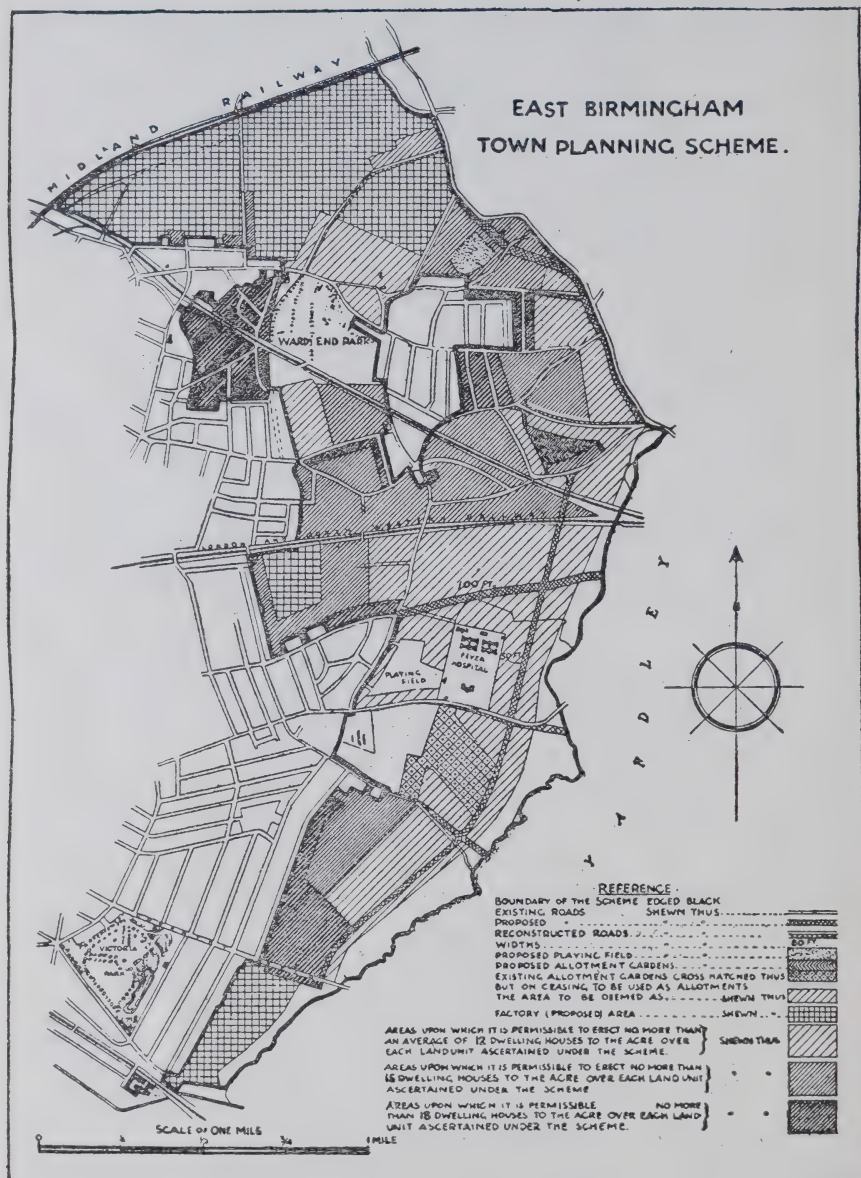
Second Stage—Articles 8 to 17

This stage covers the period of preparing the actual details of the scheme, and is completed when the scheme is submitted to the Minister for approval. Local authorities during this period of preparation have the power to prevent undesirable development or at least to influence good development. The area having been determined in the first stage it cannot now be altered, except by repeating the procedure under Art. 1 to 7. The object of this stage is to settle the character and details of the scheme itself, and their effect on the land included in the area.

At the end of this stage it may be necessary for the Minister to hold a public hearing, when objections and representations to the scheme can be considered. After hearing objections, or in the exercise of his discretion, the Minister has power to require modifications in the scheme. If such modifications are proposed Article 18 provides for a further opportunity for objection to the modifications.

This stage, covering the preparation of the scheme by the local authority, may take from 1 to 3 years, dependant on the activity of the local authority or the amount of negotiation with owners which has to be undertaken. There is no great need for urgency except for the benefit of owners who may be hampered in their building operations by delay. If the preparation of a scheme extends over a lengthy period it is practicable and desirable for local authorities to make provisional agreements within their legal powers with owners so as not to stultify development pending the completion of the scheme.

The serious part of the work has now to be undertaken. It is at this stage that expert advice should be sought if it is regarded as desirable to employ such advice. After issuing the notices under Article 8, a general tentative plan should first be prepared, and the local authority should provisionally decide regarding the widths of streets under varying conditions, the areas to be delimited for factories, residences, etc., limitation of the number of buildings to the acre, provision regarding character of buildings, etc. The provisions of the scheme covering these and other matters should be drawn up by the solicitor of the local authority and a draft plan prepared at the same time by the engineer. Negotiations with owners to secure the maximum amount of agreement should then take place and finally the question of cost and how it can be reduced should be determined. The final step at this point will be



SPECIMEN OF MAP NO. 4.

This map shows the details of a scheme prepared for an area in East Birmingham. It indicates the kind of details which might be shown on Map No. 4 in the second stage of procedure. The illustration is taken from "Town Planning" by George Cadbury, Jr. (Longmans).

to instruct the solicitor to prepare the draft scheme and the engineer or architect to prepare map No. 3 illustrating the scheme. A model scheme and map should be obtained from the Commission of Conservation as a guide to the officers of the authority.

The scheme should not enter into minute details of development, nor show these on the map. For instance, with regard to streets, it will suffice to show the principal arterial roads or streets on the map, leaving the actual position and width of the minor streets to be determined under certain rules to be set out in the printed provisions. It must be remembered that the map or plan will become part of an act of the legislature and should definitely fix the main lines of development only, leaving details of lesser importance or those which are likely to be subject to the influence of varied conditions to be carried out with some freedom, but subject to principles laid down in the scheme.

ORDER OF PRINCIPAL STEPS TO BE TAKEN IN SECOND STAGE

1. (Art. 8) Issue of notices that consent has been obtained.
2. (Art. 9) Preparation of provisions of draft scheme by solicitor and map No. 3 illustrating draft scheme by engineer or architect.
3. Negotiations with owners regarding details of scheme affecting their lands.
4. (Art.10) After draft is prepared, issue of notices to Councils, owners, etc., and deposit on same date map No. 3 and draft provisions at public place, not less than four weeks before making application to Minister for approval.
Consideration of objections, conferences with owners, etc.
Map No. 4 to be prepared. (May be the same as map No. 3).
5. (Arts. 11, 12, 13, 14 and 15) Resolution to be passed by local authority to submit scheme and map No. 4 to be sealed. Scheme to be submitted to Minister for approval with documents, maps Nos. 4 and 5, particulars, estimate of cost, etc.
6. (Art.16) Issue of notices that scheme has been submitted.
7. (Art.17) Receipt of further objections by Minister and consideration of scheme.
8. Public hearing (if any) by deputy Minister. Decision of Minister, with or without modifications or conditions.

III. MODIFICATIONS (IF ANY) BY MINISTER

Third Stage—Article 18

The third stage is only necessary if the Minister wishes to modify the scheme as prepared by the local authority. Objections at this stage should be confined to the modifications or conditions. After

considering such objections the course will be for the Minister to give final approval to the scheme.

ORDER OF STEPS TO BE TAKEN IF MODIFICATIONS ARE MADE

1. Copy order to be served on other local authorities and notice of receipt of order to be advertised by local authority.
2. Submission to Minister within four weeks of objections or representations made to modifications.
3. Final decision of Minister.

IV. AFTER APPROVAL OF SCHEME

Fourth Stage—Article 19

This stage merely relates to the formalities to be observed after approval is given.

ORDER OF STEPS TO BE TAKEN AFTER APPROVAL

1. Minister submits copy of order giving approval to local authority.
2. Issue of notices, and transmission of exhibits to Minister.

TOWN PLANNING AND HOUSING IN AUSTRALIA

THE fact that the Commonwealth of Australia inaugurated an international town planning competition for the design of the new Federal Capital gave an indication of the strong interest which is taken in the Commonwealth in the subject. That interest is being shown in a number of other ways, and is being given expression to both educationally and in the form of practical experiment. Last year the British Association held its annual meeting in Australia and one of its sessions was specially devoted to town planning, that subject being dealt with by Mr. W. R. Davidge, of London, a member of the British Town Planning Institute. An organized series of lectures are being delivered throughout the cities and towns of the Commonwealth by Mr. Chas. C. Reade.

A GOVERNMENT GARDEN SUBURB

One of the interesting schemes which is being carried out as an object lesson is that of the Dacey Garden Suburb, near Sydney, New South Wales. Sydney has a population of about 725,000. This scheme is being carried out by a Housing Board, appointed under the Housing Act of New South Wales, 1912, and is therefore a government enterprise. The suburb is being developed on an area of 336½ acres, lying within five miles of the centre of Sydney. The accompanying plan for the lay-out of the suburb was prepared by Messrs. Sulman and Hennessey, architects, of Sydney. Main avenue, in the centre of the plan, forms the principal entrance, and is 100 feet wide. The School of Arts and other public buildings occupy the island site in the business section,

DACEY GARDEN SUBURB DESIGN

Showing Proposed Subdivision of Crown Lands West of & adjoining Bannernag Rd. & South of Gardiner's Rd.

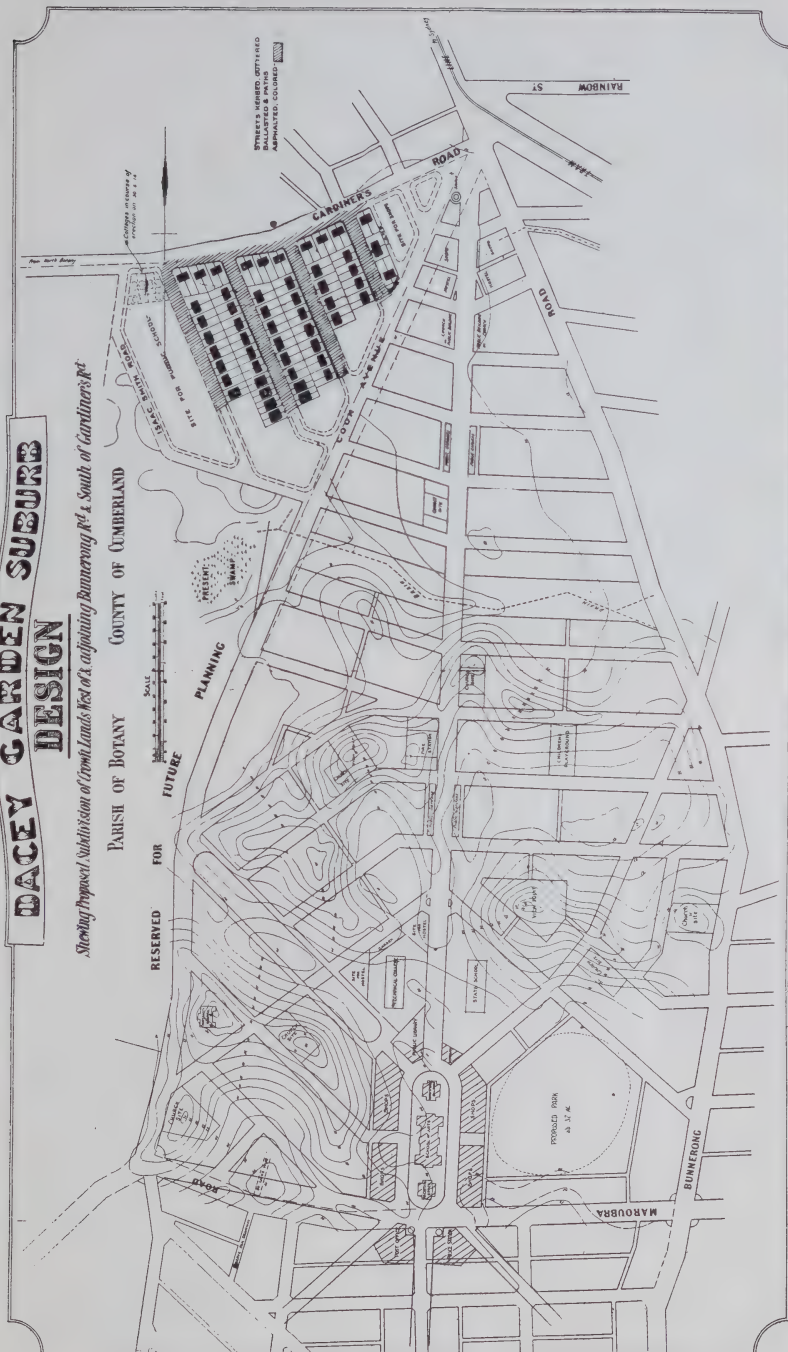
PARISH OF BOTANY COUNTY OF CUMBERLAND

RESERVED FOR FUTURE

SCALE

PLANNING

STREETS SHOWN, DOTTED LINES
INDICATE PROPOSED
APPROXIMATE COLOURED



which is shown hatched on the plan. The secondary roads branching off from the main avenue are 66 feet, with 33 feet roadways and six and a half feet sidewalks. Sites are reserved for public buildings, schools, churches, parks, gardens, etc. The area is allotted as follows:

Houses and shops.....	211	acres
Roads.....	76	"
Park lands.....	31 $\frac{3}{4}$	"
Schools and technical colleges.....	7 $\frac{1}{2}$	"
Churches.....	5 $\frac{1}{4}$	"
Public buildings.....	5	"
		<hr/>
		336 $\frac{1}{2}$ acres

It is estimated that seven cottages to the gross acre will be erected, and this will provide 1,437 cottages and 40 shops on the whole estate.

It seems rather a curious circumstance that the business section is designed at the extremity of the estate instead of in the centre, and the proposal to make the secondary roads 66 feet wide with 33 feet roadways suggests extravagance. Most of the secondary roads shown on the plan would be entirely adequate for traffic purposes if made on an average of 40 feet wide and open space would be better secured by setting back the buildings 20 feet from the street lines. The street widths should vary from 33 to 66 according to the length and probable uses of each street. With such a heavy burden of expense for road construction it is difficult to see how the scheme can be made financially sound unless the burden of rent which will have to be placed on the tenants is made unnecessarily high.

BACK LANES

On the question of lanes, the principle adopted in this scheme is the one which experience had proved to be best. That is, that lanes are provided to the business streets but not in connection with residential areas. The lanes for residential areas are objected to as occupying space that can be used to better advantage and because when made they are usually neglected, dirty and insanitary. The authorities in Australia who express this view are supported by authorities in the older European countries, and some of the Canadian cities which still require that lanes be provided in residential districts might well give the matter reconsideration in view of the experience of other countries.

COST OF DEVELOPMENT

The value of the land expropriated for the suburb was \$325 per acre in its unimproved state. The engineer's estimate of the cost of local improvements, including road making (without kerbing and guttering) and grading, was \$525,000, or \$1,560 per acre. This added to the unimproved value makes a total of \$1,885 per acre. It is estimated that an additional \$5 per foot frontage will have to be added to the above costs, for kerbing and channelling of streets and asphaltting and turfing of sidewalks. The total cost of improvements will be from five to six times



A.—Dacey Garden Suburb. Specimen semi-detached cottage showing side fencing and layout of sidewalk. Cost (including local improvements) from \$2,525 to \$3,200.



B.—Dacey Garden Suburb. Rear of semi-detached cottages showing high fence.

the value of the land. Surely such a heavy expenditure on street making should be unnecessary in a model suburb, and it would be better to use some of the money which is being expended on making roadways of unnecessary width in either increasing the accommodation in the houses or enabling smaller rents to be charged. It is of interest to note how in this case the value of unimproved land is so much smaller than the value of improved land. At the rate of \$325 per acre an unimproved lot measuring 25 feet x 100 feet would cost about \$27., and a lot 45 feet x 133 feet about \$59., after allowing for the land given up for streets.

The report which was presented to Parliament dealing with the scheme says that the idea is to keep the cost within the lowest reasonable limits, hence the above criticism of one direction in which this idea would not seem to have been kept in view. The size of the lots will vary from 38 feet to 45 feet frontage, with an average depth of 133 feet.

TYPE AND COST OF BUILDING

The accompanying illustrations A and B show the type of house being erected, the character of fences at the front and the rear and the tidy way in which back yards are kept. The dwellings vary in size from three rooms with kitchen and wash-house combined to four rooms, with kitchen, etc. The cost of building, including cost of street construction, varies from \$2,525 to \$3,200. It would be interesting to know what proportion of this cost was for local improvement as distinct from house construction. The rents vary from \$3.60 to \$5.25 per week. Considering the low cost of the land and these somewhat high rents it is interesting to note from the report that the rents are 15 to 20 per cent less than charged by private owners. The dwellings are let to weekly tenants, and there is a provision in the agreement that the garden grounds shall be kept in good order to the satisfaction of the Housing Board.

In fixing the rentals the Housing Act requires that the following shall be provided for:—

- (a) Interest at not less than four per cent on capital value of land and buildings;
- (b) Cost of insurance, rates, taxes, repairs and maintenance;
- (c) Proportionate part of expense of management;
- (d) Sinking fund.

The Board is not empowered to exercise any discrimination as to class of tenant, but from the list of the tenants who occupy the buildings already erected it is shown that they are mostly of the artisan class. The daily rates of pay of some of the workmen employed are: Bricklayers, \$3.25; plasterers, \$3.25; carpenters, \$2.75; roof tilers, \$3.00; labourers, \$2.25 to \$2.50.

About 67 dwellings were completed and let up to June, 1913, and another 250 cottages have been authorized to be erected at an expenditure of about \$750,000. The Board report that the tenants show great readiness to cooperate with them to make the scheme a success, and from the fact that the rents are charged to cover all the requirements of the Act and that there are no vacant houses it would appear that the scheme is likely to succeed.

TOWN PLANNING PROGRESS IN CANADA

NOVA SCOTIA

A TOWN Planning Act has been passed into law in Nova Scotia which will revolutionize the methods of developing real estate and controlling building operations in that province. The Act is to a large extent compulsory and is in advance of anything of the kind in the world.

Under the Act a Local Town Planning Board must be appointed in every urban and rural municipality, and a town planning controller has to be appointed for the whole province. No street can hereafter be laid out, nor any sub-division made unless the plans are approved by this Board. Within three years every Board must either prepare a town planning scheme or a set of town planning by-laws with the following minimum requirements:—

(1) The distance between buildings to be not less than 60 feet and up to 100 feet on opposite sides of existing streets, both in respect of new buildings and reconstructed buildings, and to be not less than 80 feet on new main thoroughfares, whatever the width of the street.

(2) Land to be reserved for new main thoroughfares not less than 60 feet in width, and provision made for allowing narrow streets of from 24 feet to 40 feet where not required for through traffic.

(3) The number of dwellings to be limited on each acre, all windows of dwellings to have adequate light and air, separate areas to be prescribed for dwellings, factories, stores, etc.

Property is not to be deemed to be injuriously affected for purposes of compensation by reason of the following restrictions on its use, if the Commissioner of Public Works is satisfied that they are reasonable for the purpose of securing amenity:—

(1) Prescribing space about buildings

(2) Limiting the number of buildings to the acre

(3) Limiting the height of buildings

(4) Prescribing the use or character of buildings, *i.e.*, whether the land shall be used for dwellings, factories, etc.

It is an essential part of the Act that there shall be co-operation between municipalities and owners and between adjacent municipalities. Ample safeguards are provided to prevent any person erecting buildings or sub-dividing land so as to contravene a proposed scheme or by-law, while either is being prepared. The Local Board has power to buy land up to 200 feet in depth on the frontages of new roads or reconstructed roads. The price of any land to be expropriated must be the market value and no extra allowance is to be made for compulsory purchase. The Act has been drawn up in consultation with the Commission of Conservation and immediate steps will be taken to put it into force in the province.

A copy of the Act is printed in the sixth annual report of the Commission of Conservation.

NEW BRUNSWICK

Although Nova Scotia has now the most advanced Act, New Brunswick is likely to give birth to the first statutory town planning scheme in Canada under its Act of 1912. The city of St. John has appointed a Commission to prepare a scheme and steps are being taken to deal with an area of 10,000 acres.

QUEBEC

Steps are being taken in Quebec to secure the presentation of a draft town planning Act at the next session of the legislature.

ONTARIO

The report of the Federal Town Planning Commission which was appointed to prepare a plan for Ottawa is now in the press.

An investigation is being made by the Town Planning Adviser of the Commission of Conservation into the housing conditions of the capital city.

The Civic Improvement Committee of the Hamilton Board of Trade has recently shown much activity. A Town Planning Conference was held in Hamilton in June last at which representatives of about twenty towns in southwestern Ontario attended. It was decided to hold an annual conference and to immediately petition the Ontario legislature to pass a town planning Act. Steps are being taken in Hamilton to prepare a map of the city as a preliminary to the preparation of a comprehensive town planning scheme.

The Boards of Trade of Windsor, Renfrew and Port Credit are considering the question of town planning and have invited the cooperation of the Commission of Conservation in the matter.

MANITOBA

The Winnipeg Town Planning Commission continues to do good work. Conferences took place in May under the auspices of the Commission. It is hoped to secure town planning legislation in the near future.

SASKATCHEWAN

A draft town planning Act is now being considered by the officers of the Saskatchewan Government with a view to early consideration by the legislature. The cities of Regina, Saskatoon and Swift Current have held public meetings and petitioned the Government in favour of legislation.

ALBERTA

Calgary and Medicine Hat are considering the desirability of preparing town planning schemes. The procedure regulations under the Alberta Town Planning Act have now been prepared.

RECENT WORK OF THE COMMISSION OF CONSERVATION

The ordinary public health work of the Commission of Conservation may be regarded as being somewhat in a state of suspended animation owing to the absence of Dr. Hodgetts, the Medical Adviser of the Commission, in Europe. For the time being perhaps an undue but unavoidable emphasis is being placed on the subjects of housing and town planning which are being dealt with by the Town Planning Adviser of the Commission.

In connection with housing, it is intended in the near future to prepare a draft Act for submission to the provincial legislatures. Before preparing the draft, however, the town planning branch of the Commission is undertaking a comprehensive study of the housing and economic conditions of Ottawa with a view to obtaining accurate data as to the conditions in a Canadian city.

During the early part of this year the branch has also been engaged in advising provincial legislatures and cities and towns throughout the Dominion in regard to legislation and the work of preparing schemes. All the provinces with the exception of Prince Edward Island have now been visited and in most provinces a large amount of fruitful work has been accomplished and satisfactory progress has been made.



DISADVANTAGES OF RECTANGULAR SYSTEM OF DEVELOPMENT

THE accompanying view of a street in Seattle shows where the rectangular system of laying out land without regard to the topography has burdened the city with the expense of removing vast quantities of earth to secure a proper grade. The lowering of the street destroys the land fronting upon it, and the latter has also to be lowered to enable it to be used for building purposes. The original height of the land can be seen from the lot which has been left suspended on a small tableland because the owner of the lot would not enter into the scheme. The result is not only to involve the city in great expense, which would have been unnecessary if the city had been properly planned, but is destructive of natural features.





So long as casual labour broods in squalid lairs in sunless streets, and ugly dwellings are its only habitation, we shall continue to turn out nervous manikins instead of enduring men. Motherhood, childhood, youth, society and the race demand the demolition of the soul destroying slum. The mean street produces mean men, the lean and tired women and the unclean children.

Plan the town if you like; but in doing it do not forget that you have got to spread the people. Make wide roads but do not narrow the tenements behind. Dignify the city by all means but not at the expense of the health of the home and the family life.”—Right Hon. John Burns, M.P.



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Conservation of Life

PUBLIC HEALTH, HOUSING AND TOWN PLANNING

*Quarterly Bulletin issued under the direction of the Commission of
Conservation of Canada*

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No. I

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OTTAWA, OCTOBER, 1915

No. 1

CIVIC IMPROVEMENT ORGANIZATION FOR CANADA

A proposal for a national movement to secure a general and effective interest in municipal affairs and the study and advancement of the best principles of civic improvement and growth.

AT the International Town Planning Conference held in Toronto in May, 1914, the Canadian delegates met and passed the following resolution:

"That this representative gathering of Canadian delegates at the International City Planning Congress held in the Convocation Hall of Toronto University on Wednesday, May 27th, 1914, desires strongly to pray the Commission of Conservation, in view of the very practical co-operation and interest in the aims and objects of the present International City Planning Conference happily promoted by it, to further continue its good work by the creation of a special *Bureau of City Planning and Housing* in connection with the activities of the Commission of Conservation, to act as a *Central Body* to encourage and co-operate with provincial or other housing and town planning bodies."

Partly in consequence of the appeal contained in this resolution the Commission of Conservation has formed a Town Planning Branch, and has appointed a Town Planning Adviser. The branch is engaged in framing draft town planning and housing legislation, in advising cities, towns and villages regarding the planning and improvement of their areas, and in educating public opinion. It is felt, however, that the work of the Commission will not meet with an adequate measure of success unless there is a more wide-spread interest in municipal matters on the part of the general body of citizens. An organization is required to stimulate public interest in municipal affairs, with special regard to public health, town planning and housing, and to encourage the study and advancement of the best principles of civic improvement and growth.

A proposal has therefore been made that Civic Improvement Leagues should be formed in each city, town and municipality in Canada, that these leagues should together form federations in each province, and that these federations should unite in a Dominion Conference on Civic Affairs at suitable intervals. Where Boards of Trade have Civic Improvement Committees, or other bodies are in existence which deal with certain aspects of city or village improvement, it might not be necessary, or even desirable, to form a new league but merely to attach the existing body to the provincial federation. Civic Improvement and Housing

Committees of Local Councils of Women would also be welcomed as local units in the organization.

CONFERENCES TO CONSIDER PROPOSALS

The scope and form of constitution of the proposed organization have not yet been agreed but a draft scheme has been prepared and will be submitted to a representative conference to be held in January, 1916, during the annual meeting of the Commission of Conservation. Existing Civic Improvement Leagues and other bodies which have been formed for the purpose of promoting public health, town planning, housing and associated movements are being invited to take part in a preliminary conference to be held in November next.

The draft scheme which will be submitted to the above conferences is described below. It will be seen that the proposed leagues are to be voluntary associations with no restrictions on their membership and primarily educational in character. It is hoped that all existing leagues and associations which have been formed to promote city, town or village improvement will become identified with the wider organization.

WHY THE EXISTING ORGANIZATIONS SHOULD CO-OPERATE AND OTHERS SHOULD BE FORMED

Many of the existing bodies are working without knowledge of each other's operations and are unable to get the benefit to be derived from co-operation with each other. A frequent exchange of views would be of great value. In regard to all civic questions there is much need for education in Canada. There have been many interesting developments in recent years that require to be carefully studied. Experience in regard to town planning particularly is so new that it is of the utmost importance that the lessons to be derived from it should be fully discussed and erroneous ideas removed.

TIME IS OPPORTUNE

The time is considered opportune for a Dominion-wide movement in connection with these matters. The fact that the Empire is engaged in war is an added reason for considering how we can build up and conserve our national resources by reducing wasteful municipal expenditures, improving housing conditions, raising the standard of public health, obtaining better means of transportation, reducing unemployment and generally planning our towns, cities and municipalities so as to secure health, economy and convenience.

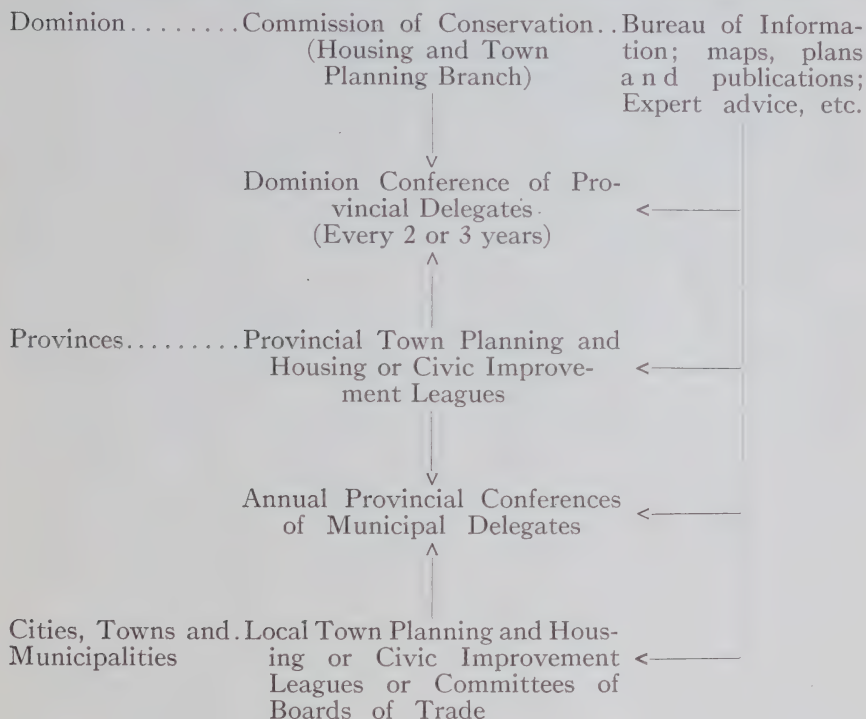
ORGANIZATION SHOULD BE REPRESENTATIVE OF DOMINION, PROVINCES AND MUNICIPALITIES, RESPECTIVELY

It is not essential to have a new Dominion organization but that may be a later development.

The Commission of Conservation, with its Town Planning Branch, may be regarded as meeting the Dominion requirements for the present.

The Commission has its expert advice and carries on a large amount of educational work in connection with town planning, housing and public health. In the provinces it co-operates with the Provincial Governments, but its work could be greatly assisted on the educational side by federations representative of the Civic Improvement Leagues throughout each province.

The grouping of the organization might be summarized as follows:—



The direction of the arrows indicates that the expert advice and assistance of the Commission of Conservation is available for all parties and on all occasions.

The provincial federations, consisting of delegates from the city, town and municipal leagues, would exist for the purpose of centralizing the work in each province. Their work would chiefly consist of organizing and convening the periodical conference of delegates, transmitting resolutions of each local body to the government and perhaps confirming such resolutions by joint action, submitting and conferring with the government regarding legislation, etc.

As already stated, the leagues need not be limited to those dealing strictly with civic improvement, town planning and housing. Associations or committees in any city, town or district dealing with any question of civic improvement, town planning, housing, sanitation, public health,

playgrounds, fire prevention, form of municipal government, etc., might join in the provincial organization.

GENERAL CONSIDERATIONS REGARDING SCOPE AND OBJECTS OF LEAGUES

The general object to be kept in mind should be to do that which is best for the public welfare—not for the interests of the few nor for the mere advertisement of the city, town or village. The business interests—especially those connected with productive enterprises—must have first consideration in connection with any scheme of civic improvement. Closely identified with these interests is the health of the people. To secure efficiency in connection with local industries and healthy conditions of life for the citizens, from the highest to the lowest, should be the first object of any association seeking to secure civic improvement of any kind, whether it be by a town planning or a housing scheme or by some other means.

The prosperity of a city, town or village is not determined by its size but by the average level of prosperity of its individual citizens and of the industries in which they are engaged. There is a higher average of wealth and more healthy conditions in many small towns than in many large cities. Growth is a good thing when healthy and when subject to a proper plan, but it is a bad and weakening thing when it is simply a process of unhealthy expansion and is uncontrolled in the interests of the community as a whole. Neither in the human body nor in the city does mere size in itself denote strength—in both all the various elements that go to make healthy growth must be present. It is for the local associations or leagues, guided and assisted by the central bodies, to discover what these elements are and, having discovered them, to see that they are present in their localities.

Much may be done to improve bad conditions that have grown up in the past but perhaps more in the direction of preventing the recurrence of such conditions in future. The most urgent need is to safeguard future growth. This can be easily and economically done, when proper legal powers are obtained. To alter past growth is necessarily expensive and it will be slow of accomplishment.

The worthy desire of many citizens to make their cities and towns beautiful, to secure wide roads, fine groups of buildings, large open spaces, etc., must not be lost sight of, but after all these are, to some extent at least, the luxuries and not the necessities of the city or town. We should plan to have artificial beauty but not at the expense of business efficiency, or health, or cleanliness. Natural beauty can usually be obtained by mere planning and without extra cost. A city that is healthy and clean may be beautiful even if it be without expensive ornament; it can never be really beautiful if it is unhealthy or unclean, however ostentatious its public buildings may be. By keeping things in their proper place, and subject to reasonable proportions according to their value and use, there is no reason why better results in regard to beauty, utility and health should not all be obtained without greater expense than we incur at present. By planning our towns we will find that efficiency and health can be secured by the very means which also secures

the greatest economy. In every city, town and village the problem of to-day is that we should be able to improve conditions without increased cost, that we should get higher standards of efficiency and health without spending more but by "spending more wisely." We need groups of citizens in every community to study this problem and to consider and suggest means towards its solution.

PROPOSED STATEMENT OF OBJECTS

The objects of each League should be defined as follows:—

To assist in promoting the highest interests of the city* of and the welfare of its citizens by the study and advancement of the best principles and methods of civic improvement and development, and by securing a general and effective public interest in all municipal affairs, with special regard to such questions as the following:

(1) The form and character of local government and the application of sound economic principles in regard to the administration of municipal business.

(2) The preparation of town planning schemes for the purpose of securing proper sanitary conditions, convenience and amenity in connection with the development of land within and surrounding the area of the city.

(3) The replanning of old districts, the removal of slum areas, the widening of public thoroughfares, and other reconstruction schemes.

(4) The conservation of the industrial and physical resources of the city, with special regard to the housing conditions and health of its citizens and the adequacy and efficiency of its public services.

(5) The preservation and increase of natural and structural beauty, the character and position of public monuments, the laying out of parks and open spaces, the planting and preservation of trees, the regulation of public advertising, and the abatement of smoke and other nuisances.

(6) The preparation of civic surveys and maps, and the carrying out of investigations into housing, transportation and industrial conditions, methods of land valuation and assessment, etc.

(7) The promotion of school and college courses in civics and civic design, of exhibitions of works of art and of architectural, engineering and other designs relating to civic improvements, and of public performances of music; and the provision of facilities for the recreation and physical development of the young.

(8) The means of securing increased production from the soil within and in the neighbourhood of the city by encouraging the cultivation of idle suburban land and a more widespread interest in gardening.

VILLAGE IMPROVEMENT

The need for improvement leagues or associations is greater in some

*Or town, municipality or village, as the case may be.

villages than in many towns. With a view to showing what work might be undertaken by a village improvement association a separate article in this bulletin describes the work of a successful New England association.

WORK TO BE DONE

The above objects suggest the nature of the work to be undertaken. This, however, would differ according to the different conditions and different laws of each province and locality. For instance, in Nova Scotia, New Brunswick and Alberta there will be no need to consider the details of town planning legislation as Acts are already in force. In these three Provinces, therefore, the work of leagues or committees will probably be directed, so far as town planning is concerned, to encouraging the application of the existing legislation and to considering the details of schemes and their administration. In other provinces a large part of the work for a time will have to be in the direction of promoting legislation without which no effective town planning can be secured. Similar differences exist regarding other matters, but a more extended statement of a suggested programme of work for each province may be left over for the present.

An invitation is extended to all who desire to assist in promoting the proposed organization to communicate with the Town Planning Adviser of the Commission of Conservation by letter or on the card enclosed in this bulletin.

EXISTING LEAGUES, COMMISSIONS AND COMMITTEES

The following is a preliminary list of some existing organizations which are suitable for affiliation with the proposed federated bodies:—

Halifax—	Civic Improvement League
St. John—	Board of Trade Town Planning Committee
	Town Planning Commission
Montreal—	City Improvement League
Toronto—	Civic Guild
	Bureau of Municipal Research
Hamilton—	Town Planning Commission
	Civic Improvement Committee of Board of Trade
Berlin—	Civic Improvement Association
Winnipeg—	City Planning Commission
	Housing and Town Planning Association
	Town Planning and Civic Betterment Committee
Regina—	City Planning Association
Swift Current—	City Planning Commission
Edmonton—	" " "
Lethbridge—	" " "
Calgary—	" " "
Vancouver—	Civic Centre Association
Alberta—	Town Planning and Housing Association.

CHILDREN'S PLAYGROUNDS

IN many cities and towns a great deal has been done to provide facilities for recreation in recent years, and there are many active playground associations which are doing admirable work. There is need, however, for more concerted action, and for an exchange of views regarding experiences in different places. In some cases local action is confined to setting aside open spaces, without any attempt to provide them with the furnishings that are needed to make them real playgrounds. No proper system of parks and playgrounds can be devised and carried out under any scheme which is not part of a comprehensive town planning scheme for a city or town, and there is room for more co-operation between local councils and organizations interested in providing facilities for recreation.



A happy "bunch" of children in a well furnished school play-ground in Winnipeg

The above view shows an admirable and well-used school ground in Winnipeg. Without such a playground the children shown in the picture would probably be playing in the streets and running the risk of bodily injury from passing traffic. Here they have means provided not only for amusement but also for that physical training and development which is so essential to their well-being.

The view of the bathing beach in Riverside Park, Stratford, Ont., on the following page, shows how much the children appreciate proper bathing facilities. In most Canadian cities and towns there are excellent places for bathing, but little, if any, attempt is made to provide proper facilities in connection with them so as to secure comfort, safety and cleanliness. Too often the only suitable bathing places are either spoiled by growing weeds and the presence of mosquito-breeding swamps



The bathing-place of Stratford, Ont., in the public park near the centre of the town

in their neighbourhood, or by the pollution of the rivers by the town sewage. Drowning accidents frequently happen because of public neglect in organizing what, under the right circumstances, is one of the safest, as it is one of the healthiest, of recreations. The citizens of the town of Stratford are to be congratulated on the care which they are showing for the comfort and health of their children, and for their enterprise in converting an unhealthy frog pond into a clean and beautiful play place for the people.

AN EXAMPLE OF VILLAGE IMPROVEMENT

THE description of the work of the Laurel Hill Society, carried out in the small rural town of Stockbridge, Mass., U.S.A., provides an object lesson of long continued, patient and effective effort, which an American writer* says "is without an equal in village improvement work." Once a drab, uninteresting little town, with no sidewalks, ungraded streets, wayside dumps, a prominent cemetery with a broken-down boundary fence, and unattractive homes, it is now one of the most beautiful towns in New England.

It is described as follows in Mr. Farwell's book (pp. 15 and 16):—

*Parris T. Farwell on "Village Improvement"

"A well-made hedge surrounds the cemetery. Trees have been planted in the grounds, and walks and drives constructed; so that now this burial-place is a garden, a pleasant and attractive place, an ornament to the town. Throughout the town all streets are well made, and the main street, with its grassy borders, its pleasant walks and its magnificent, over-arching elms, is one of the most beautiful in New England. The church green, once a barren level, is planted tastefully with trees enough to give it a park-like aspect. The old Town Hall near by, once a rather shabby building, has been transformed into a pleasant colonial structure, dignified and beautiful. The railway station, formerly an ugly wooden building, with its accompanying coal and freight sheds, has been replaced by an attractive stone station, the railroad company bearing half the expense of its construction and the village improvement society raising the remainder. The land around the station, even in the days of the old wooden edifice, was transformed, under the charge of the society, into a park, giving a pleasant welcome to strangers alighting from trains, so that their first impression was a vision of beauty. Here and there through the town, at the intersection of roads, are small parks, each with a fountain, or a monument, of tasteful design. At one end of the village street the unique history of the town—its relation to the Stockbridge Indians—is memorialized by an appropriate shaft of natural granite, brought from the near-by hills and marking a mound where the Indians buried their dead. Many other adornments might be mentioned as now attracting the attention of a visitor, and impressing upon him the beauty and interest of the village."



VILLAGE STREET, STOCKBRIDGE, MASS.

Note absence of such stiff formal features as cement sidewalks and kerbs, which not only cost a great deal but are out of place in residential streets having a rural character.

WORK OF LAUREL HILL SOCIETY

The improvement of Stockbridge has been carried out by the Laurel Hill Society, of which everyone in the town, old and young, became members when it was started in 1855. Children under fourteen years of age were admitted on the payment of twenty-five cents or its equivalent in work. Any person over fourteen years of age who annually planted or protected a tree under direction of the committee or paid the amount of one dollar or its equivalent in labour was made a member. Thus the whole community joined together and made it a "town affair." Prizes were offered for planting trees, and since the society first started over 2,000 trees have been planted.

The ideal of the society was proclaimed in its early history as follows:

"We mean to work till every street shall be graded, every sidewalk shaded, every noxious weed eradicated, every water course laid and perfected, and every nook and corner beautified,—in short till art combined with nature shall render our town the most beautiful and attractive in our ancient commonwealth."

The annual meeting of the society was made a village festival.

Expert advice has been employed from time to time, with the result that no mistakes were made.

As a result of long experience the society has learned many lessons and has formulated several recommendations to those desirous of forming Village Improvement Associations.

It is recommended that funds to a considerable amount should be secured at the start, so that something noticeable may be effected at the outset; also that, as far as possible, annual subscriptions should be secured for some years in advance, so that public confidence may be won before the novelty has worn off.

All classes, including children, should be interested, and women members should be prominently identified with the management. Operations should be commenced at some point on which the whole community is interested; frequent meetings are desirable and the organization should be made as business-like as possible.

Societies with similar objects and as democratic in their membership as the Laurel Hill Society should be formed in all Canadian villages. Where small towns or villages show no signs of growth perhaps the work of such a society would suffice to secure all the improvement desirable without the operation of a town planning scheme, but in any case town planning powers, *i.e.*, authority to prepare a scheme, should be obtained even in the smallest and most stationary towns.

Definite proposals are made elsewhere with regard to the steps that should be taken to form societies. The citizens of a town or village derive a new interest in life when they join together to make their surroundings more orderly, wholesome and beautiful. Co-operation for this purpose is within the means and ability of the poorest.

ROAD IMPROVEMENT IN GREAT BRITAIN, UNITED STATES AND CANADA

THE planning and improvement of roads and streets is an important part of what is called "town planning." The main arterial road system of the cities and towns should be determined under town planning schemes, and should be linked up with the highway system of each province. Better planned and better constructed roads are much needed in Canada, as a means of securing increased industrial efficiency and healthier living conditions. One of the most important matters to be considered is the method of raising and administering funds for road construction. Some notes regarding what is being done in Great Britain and in a part of the United States will be found of interest in this connection.

WORK OF THE ROAD BOARD IN GREAT BRITAIN

The Road Board was created by the present British Government in 1909, for the purpose of constructing and improving roads and bridges. It derives its chief revenue from motor spirit duties and carriage licenses. The road improvement fund amounted, in 1915, to \$8,104,870, an increase of about \$2,000,000 over the receipts for 1912. Since 1910 the total receipts have amounted to over \$32,000,000, all derived from duties on motor spirit, carriage licenses and profit on investments. In the report for the period ending March 31, 1915, it is shown that a total of \$23,638,635 had been expended in grants or loans for road improvement from 1910 to 1915.

The following table shows the expenditure during the year ending March 31, 1915:—

	GRANTS	LOANS
Improvement of road crusts.....	\$5,433,010	\$2,364,635
Road widenings and improvement of curves, gradients and corners.....	644,880	41,935
Road diversions.....	76,850	1,980
Reconstruction and improvement of bridges	77,810	.....
New roads and bridges.....	2,256,870	3,540

Before 1909 the roads in Britain were comparatively good, but their surfaces were being gradually destroyed by increasing motor traffic. Bridges and curves which had not been dangerous with slow-moving traffic became dangerous with motor traffic. For these reasons it was thought proper that the cost of improving the roads should be largely met by a tax on motors. The new tax was placed on motor spirit and this, together with the revenue derived from carriage licenses, was transferred to the Road Board.

It will be seen that 64 per cent of the total grants were made for improvement of road crusts.

Since the outbreak of the war the Board has sought to promote the work of road construction and improvement in districts where unemployment exists.

The work of the Road Board is carried on in co-operation with local authorities but is in addition to the ordinary work of road maintenance undertaken by the latter.

For the purpose of securing a basis for increased grants in aid of ordinary maintenance expenditure—these grants being from the National Exchequer and independent of the grants of the Road Board—all roads in Britain are being classified into three groups of highways, namely, (1) first class, (2) second class, and (3) all other roads. The amount of the proposed grant will be determined according to the class of road—the highest proportion being given to the first class. As a part of its duty the Road Board takes statistics of traffic and maintains a laboratory for testing various kinds and qualities of road materials. For some years it has been making experiments with a view to deciding the most suitable and economical compound for road surfaces. The recommendation of a manufacturer or contractor is not a governing factor in selecting a road material in Britain.

ROAD IMPROVEMENT IN NEW YORK STATE

In the United States the question of road improvement is a State rather than a Federal matter. In recent years extraordinary progress has been made in many of the States, both in regard to the system of organization and the actual work of making improvements. One of the most active and successful Highway Commissions is that of the State of New York. In the last annual report of the commissioners it is said that the greatest asset which the State has is its system of improved connected highways. It is estimated that the money expended on the roads pays as a result of the increased tourist traffic thereby attracted. There are 80,000 miles of highway in New York State, but the state and county system being dealt with by the commission comprises only 11,986 miles. Of that mileage 6,315 miles have been or are in course of being improved. The following appropriations for 1914 show the extent of the work done and the proportions paid by the State and local authorities respectively:

Miles advertised for construction	1,167.32
State appropriation.....	\$16,462,073.20
County ".....	2,072,373.62
City or village appropriation.....	1,112,970.69
	<hr/>
	\$19,647,417.51

In addition to the above there is the large amount being expended by the cities and towns on the roads located in their own areas. New York State, however, follows the British practice, and in that respect differs from all other States in the Union, by affording direct financial aid to the towns for improving the highways within the town areas. In 1914 the State appropriated \$1,800,000 for this purpose. Each town has to supplement the State grant with an amount raised locally and the Town Bureau of the State has supervision over the expenditure not only of the money contributed by the State but also of the money raised locally. In

1914 the towns raised \$3,250,091 under this arrangement. Uniform systems of accounts have to be kept. The expenditure of the money of the State in this direction "has resulted in a wonderful improvement in town roads throughout the State," and the Deputy Commissioner of Town Highways says, in his last report, that over 70,000 miles of highway have been properly widened, shaped and crowned so that travel over them is safe and convenient.

"In each town of the State is elected biennially an officer known as the Town Superintendent of Highways, who has charge of all work connectea therewith, hiring the necessary labour, procuring the necessary material, and giving personal supervision to the execution of plans for the highway work in his town. In each county is an officer known as the County Superintendent of Highways, appointed by the Board of Supervisors of the county. The County Superintendent has general charge of all town-highway affairs in his county, giving advice, assistance and directions to each town superintendent as the need therefor appears.

"The revenues for the repair and maintenance of town highways are derived from taxes levied in each town for the maintenance of the highways within the town. These taxes are supplemented by moneys paid to the different towns by the State for the same purpose and forming, in connection with the taxes before mentioned, a common fund known as the highway fund. The amount to be paid by the State to the several towns is annually appropriated from the general funds of the State and is determined by the assessed valuation per mile, the State aid being graduated according to the valuation, varying from 100 per cent to the poorer towns to 50 per cent to the most wealthy ones. The giving of this aid allows the State-Highway Commission to have direction and control of the highway work as carried on in the various towns."

Connected with the Commission is a Bureau of Tests, which examines the quality of all road materials. Under such a system it may be said that every part of the State benefits from any experience gained and any mistake made in any other part, and great saving is bound to result, while an efficient system of State highways is secured.

NEED FOR IMPROVEMENT OF HIGHWAY ADMINISTRATION IN CANADA

The question of highway administration is in urgent need of attention in Canada. There are at present Highway Commissioners in most of the provinces, but they deal with rural highways and are not concerned with the local improvements in cities and towns. It is desirable that every city, town and municipality in each province should have the assistance of a central department on all highly technical engineering questions, including that of road planning and construction. The work of the Road Board in Great Britain and of the Highway Commission of the State of New York are worthy of careful study in this connection, but to be really efficient each provincial Highway Commission or Board should be linked up with a department of local government, dealing with municipal affairs in general and not solely with highways.

The roads in Canada are more important for distribution of produce than in Great Britain where distances are so short and light railways are so plentiful. In Canada we have had to start off without any of the advantages possessed by older countries in the matter of old foundations and the accumulated work of centuries of road construction. We have to develop motor transportation by road as a means of feeding the great trunk railways and securing the economical distribution of food. Manufacturers and contractors seem to have more say in giving advice regard-

ing the material to be used than elsewhere. The respective obligations of the provincial and the local governing bodies in regard to road construction and maintenance have to be considered. Local authorities need to be advised regarding the proper use and value of different kinds of road material, after adequate trial and investigation by an expert department, in order to save hundreds of thousands of dollars spent in unsuitable road material used in local improvements.

When we consider the enormous amount of money spent in roads and road maintenance and the great waste arising from the haphazard methods of carrying out local improvements, it is surprising to find so little effort being made to deal with the matter on more practical and scientific lines. Much is being done in Quebec and Ontario to carry out isolated road schemes but a more concerted and comprehensive effort is needed, —and that urgently—in the interests of national prosperity.

The Highway Commissioners of Ontario in their annual report draw attention to the need of more co-operation between the cities and country districts in the matter of road improvement. Ontario has about 50,000 miles of roads, and the Highway Commissioners consider that a sum of \$30,000,000 should be spent on these roads during the next 15 years. The following apportionment is suggested:—

Province—(including revenue from motor fees)	\$12,000,000
Counties	12,000,000
Cities	6,000,000
	<hr/>
	\$30,000,000

To this capital expenditure there will have to be added the great cost of maintenance, which may amount to from \$300 to \$500 per mile.

The amount appropriated in the State of New York is \$65,000,000 for 11,000 miles of highways, and about \$50,000,000 has already been spent or obligated. In Great Britain we have seen that one department alone—the Road Board—has raised \$32,000,000 for road improvements in four years, almost entirely from motor spirit and carriage licenses. Merely for purposes of road improvement Ontario would require to incur an expenditure of about three millions of dollars annually to bring its current rate of improvement in the settled part of the province up to the British standard. The proposed expenditure of the Ontario Highway Commission at the rate of two millions annually would therefore appear to represent the minimum, under present conditions. The Ontario Commission is doing excellent work and the same may be stated with regard to Quebec and other provinces. But the whole question of highway administration in Canada needs to be reviewed. Some system should be devised to secure more co-operation between the provinces, the counties and the cities. As already stated, there is a pressing need for a central department in each province to deal with all questions of Local Government, including highways, town planning, and local improvements. Such a department is necessary to secure efficiency, but it would have to be formed in such a way as not to interfere unduly with the present powers of local authorities.—T.A.

IMPROVEMENT OF BUSINESS STREETS IN CANADA

THE two parts of Canadian cities and towns which, generally speaking, are least attractive in appearance are the station approaches and surroundings and the main business streets. There are many reasons why these parts should be among the most pleasant and picturesque in the towns, one being that they are often the only parts seen by the passing or casual visitor.

Suggestions for improvement of business streets are frequently voted down because of some prevailing prejudice that it will injure trade. One fallacy is that street railways add to the business value of a street, whereas they frequently do more injury than good. The matter is not one which can be determined on any hard and fast rule, but in most cases a narrow business street is better without a street railway so long as the street is near to the converging points of traffic. Another fallacy is that successful business streets must have stores on both sides, although some of the finest shopping streets in the world have only one side devoted to trade. Examples of this are Princess street, Edinburgh, Lord street, Southport, England, the Rue di Rivoli, Paris, and on a small scale the principal business street in Fredericton, shown on the accompanying illustration. The principal shops in Fredericton are located on one side of this street, opposite an area devoted to public buildings. Another illustration is that of the Promenade, Cheltenham, shown in the Sixth Annual Report of the Commission of Conservation.



Principal business street in Fredericton, showing shops on one side of street only

The second illustration shows the Officers' Quarters at Fredericton, and suggests an arrangement which might be considered as a means of improving the facade of a row of shopping premises in a ragged and dis-

orderly business street. The erection of a uniform arcade over the sidewalk with a verandah above would give unity to building fronts even if the actual shops were varied and uninteresting in character. The cover obtained would add to comfort in shopping both in summer and winter. A verandah above the arcaded walk would form a further screen to an ugly facade and add to the utility of the projection, since the second storey could be used for shopping purposes as well as the first storey. Such an arrangement would be particularly valuable for restaurant, drug and hotel premises. The illustration shows how attractive such an arrangement can be made. The more simple and unadorned the arcade is made, so long as its proportions are right and its principles of construction sound, the more beautiful it will be.



OFFICERS' QUARTERS, FREDERICTON

Showing arcaded and verandah arrangement suitable for erection over sidewalk in business streets

In many towns expensive schemes are carried out in street widening which would be unnecessary if arrangements could be made to provide arcaded sidewalks inside the front wall of the buildings, thus enabling the existing sidewalks to be thrown into the roadway, and securing shelter for those engaged in shopping.

HOUSING OF THE INDUSTRIAL WORKER

THE important question of housing industrial workers can only be satisfactorily solved, when some one, or preferably some government, demonstrates the possibility of erecting houses, which, conforming to the requirements of the sanitary engineer, can be rented for amounts which are not out of proportion to the occupiers' incomes, and yet yield the investor an equitable return for his investment and risk. When considering the amount of rent an occupier may be able to pay, it is necessary also to take account of certain expenditure indirectly connected with rent, although not rent;—such as the amounts that have to be expended in fuel to heat the house, the cost of water, the amount of tenant taxes, of fire insurance and of repairs, other than the repairs undertaken by the landlord.

A badly constructed house, at an apparently low rental, may cost more than a well constructed house at a far higher rental. The extra expenditure, under one or more of the items mentioned, may be more than the difference in actual amount of rent paid.

In Canada, problems exist that are non-existent in such countries as England. Partly owing to climatic causes, the wages paid to bricklayers, masons, plasterers and plumbers are very high, often over three times the wage rates paid in Europe. With temperatures ranging from under 30 degrees below zero up to and over 95 degrees above, making a difference of over 125 degrees, as against a difference of about 70 degrees in England, construction work and the cost of construction work must of necessity present different and also difficult problems.

COST OF IMPROVED BUILDING LAND

Law and custom have so arranged that the cost of improved building land is higher than the cost of similar land in Europe, notwithstanding the price of agricultural lands is much less. This increase in cost is partly owing to the increased cost of improvements, but is chiefly owing to an unwarranted increase in the price of agricultural lands, as soon as they are divided into lots. The bulk of this increase goes into the pockets of real estate speculators, and is a real danger to the future of Canada. These conditions cause the providing of houses for the occupancy of industrial workers, at a reasonable rental, to be difficult, and any attempt to solve the question by the erection of houses, either detached or semi-detached, must fail because houses thus erected give the minimum of comfort at the maximum of cost. It can be proven that money spent on a number of detached or semi-detached houses, if spent upon houses built in a row, would provide more comfortable houses—houses with better sanitary surroundings, requiring less fuel to heat and costing less in upkeep.

For similar reasons, the construction of houses with pitched or peaked roofs is to be deprecated. The flat roof, properly constructed, will make the house warmer in winter and cooler in summer; it is cheaper to build, less expensive to maintain, and, as a fire risk, it is far superior.

If it be admitted that houses should be erected in rows, when they are to be occupied by persons of limited income, it is then necessary to

consider how such rows should be located and what municipal improvements should be undertaken.

The laws governing these municipal activities vary widely in the several provinces and are seldom drawn up so that the maximum benefit can be secured at the minimum cost.

Anyone who is instrumental in securing the revision, codification and uniformity of these laws will deserve well at the hands of the Dominion of Canada. In certain provinces, some roadways are required to be far too wide, whilst in all the provinces there are no provisions to regulate the width of air spaces, a matter of great importance from the standpoint of sanitation. Unduly wide roadways are not only a waste of land that should be put to better use, but is either a nuisance, or an annual expense, caused by the necessity of keeping it clean or in repair.

The early and proper selection of such roads and streets as will be required for through traffic should in all cases be determined. Few roadways, when used only for local traffic require to be wider than 24 feet, plus the sidewalks, and in many cases 16 feet will be found to be ample.

It is very necessary that regulations be made to govern the distance, from the centre of the roadway, at which houses are allowed to be erected, and this distance should be more or less regulated by the height of the houses proposed to be erected. Trees planted along the sides of front streets add much to the comfort of those occupying the houses, as is evidenced by the fact that the value of houses erected on streets so planted with trees is enhanced; therefore, seeing that these trees are not costly, it is wise to arrange to have the front streets so planted. To enable this to be done and yet provide a garden between the trees and the houses it is necessary to arrange so that the centre of the houses be placed further from the centre of the front street than from the centre of the back lane. Such an arrangement also conduces to economy when connecting with the pipes and wires of the public service utilities. The saving so secured totals quite an amount.

An ideal arrangement, the same being made to conform to the requirements of the Ontario law, which requires a street of 66 feet, would be as follows:

	Feet
Front roadway, 18 to 24 feet, say.....	24.0
Grass strip with trees, 10 feet—one on each side of roadway...	20.0
Cement sidewalk, 6 feet - - - - - " " " "	12.0
Grass strip, 5 feet - - - - - " " " "	10.0
Total.....	66.0

The 5 feet grass strip could be fenced in as part of the garden, until such times as it was required for municipal purposes, providing it was not built upon.

	Feet
From this grass strip to front of house.....	30.0
House over all, including (L) extension.....	50.0
Back yard from (L) extension to back lane.....	10.0
From back yard to centre of back lane.....	10.0
Total.....	100.0

The allowance for back lane would be 20 feet, of which 16 feet would be macadamized and four feet left under sod. Under this four feet would be placed all pipe lines and the poles for wires would be erected upon the inner line. This four feet strip could also be enclosed in one side of backyards providing it was not built over.

The advantages accruing from this arrangement are as follows:—
The front streets will be entirely relieved from

- (a) Disturbance from the laying, removal, or repairing of pipes of all sorts and from the subsidence of roadbed too often caused thereby.
- (b) The front street will be relieved from all pole lines, which are not only unsightly but damage the trees.
- (c) The sidewalks will not be interfered with, and, being only used for passenger traffic, will be without disturbance and so will last, without repairs, much longer than is now the case.
- (d) The gardens will be free from disturbance.
- (e) The front street will be relieved of all heavy traffic, thereby decreasing the quantity of dust thrown into the air by the passage of light vehicles.
- (f) Both back and front of the houses the ground would be perfectly under-drained.
- (g) The annual cost of repairs would be materially reduced.

It has been claimed that a back lane has disadvantages as follows:—

- (a) Increased cost of police protection.
- (b) Increased cost of lighting.

These objections do not seem to have been well taken. Because, (a) as no police protection is now given such property, there can be no increase of what does not exist.

(b) As the back lanes would not be used after dark, the light given from the back of the houses would be sufficient to prevent these lanes becoming a nuisance. In Canada I have never found such lanes a nuisance.

I am of opinion that it is preferable to turn the land between the back-lane and the (L) extension into a yard, with cement, concrete or asphalt macadam surface. Vegetables cannot be grown without manure. Manure brings flies and bad odors. If no manure is applied, then the garden is not satisfactory. Bad odors are given off by the decaying vegetables. If it be desirable to encourage the cultivation of vegetables, I am strongly in favour of the garden allotment system. Not one in four desires to grow vegetables, and of those only about one in four would keep the garden free from weeds.

Few Canadian carpenters understand the methods required to be followed to make a house warm in winter and cool in summer. They therefore require instructing.

It is possible to so construct a house that, whilst it costs no more than a clap-boarded painted house, with wood shingle peaked roof, it will be warmer in winter, cooler in summer, cost less to keep in repair and be more fire resistant.

Under certain local conditions, it may be possible that this improved house would cost even less than one built after the old methods.

Problems exist that yet require solution, and the solution when

found may lead to further economies. These problems concern the construction of floors, partitions, walls, ceilings and roofs.

Economies can be made in a more intelligent system of manufacturing and using the trimmings put into the house. Why use inch wood, when five-eighths will answer equally as well? Why use trimmings so manufactured that they harbour dust and germs, when trimmings without these faults are available and are as sightly?

LOUIS SIMPSON.

172 O'Connor Street, Ottawa.

Editorial Note:—Mr. Simpson, in the above article, raises a number of interesting points, such, for instance, as his advocacy of back lanes in residential areas. Correspondence would be welcomed on these points, preferably relating to actual experience of the writers.

RECENT PROGRESS IN HOUSING AND TOWN PLANNING

NOVA SCOTIA

THE regulations under the Nova Scotia Town Planning Act of 1915 are being considered by the government officers. When completed they will probably be distributed to the local authorities with a circular drawing attention to the provisions of the Act. Each local authority in Nova Scotia is required to appoint a Local Town Planning Board and this board has to prepare a town planning scheme or a set of town planning by-laws within three years from April, 1915.

The new Act was a subject of discussion at the Annual Meeting of the Union of Nova Scotia Municipalities, held in August, at New Glasgow. It is proposed to hold a town planning conference in Halifax during November.

NEW BRUNSWICK

Addresses on Town Planning were delivered in St. John and Sussex, N. B., during August. The Town Planning Adviser of the Commission of Conservation has presented a preliminary report to the council of Sussex, recommending action under the New Brunswick Town Planning Act. Arrangements are being made for meetings at Fredericton and St. Stephen in November.

Progress is being made with the St. John town planning scheme. A view of part of the area included in the scheme lying nearest to the centre of the city and adjoining the suspension bridge is shown on the accompanying illustration. The application is due to be made to the Provincial Government for authority to prepare this scheme. As soon as this application is made the Town Planning Commission of St. John secures virtual control of all new developments within the area, and may prevent anything being done to contravene the scheme,



View across St. John river towards the city of St. John from part of the town planning area in the parish of Lancaster. The land on the opposite side of the river is also included up to the edge of the fully developed area of the city. A new bridge has just been erected over the river in substitution for the suspension bridge shown above.

during the period while it is being prepared. No new subdivisions can be made without approval of the commission. The commission consists of the Mayor, two City Commissioners, and two ratepayers.

The Attorney-General of New Brunswick has under consideration a revised set of procedure regulations suggested by the commission. When the revisions are made copies of the regulations will be sent to each local authority in the province.

QUEBEC

Meetings in Montreal and Quebec are being arranged to take place during the autumn. Progress is being made with the consideration of a draft town planning act to come before the Legislature during the next session.

ONTARIO

Many cities and towns in Ontario are showing considerable activity in connection with town planning. Some particulars of recent action by local authorities are noted below.

OTTAWA—Investigations into the housing conditions of Ottawa are proceeding.

RENFREW—A report on the planning of the town of Renfrew is being prepared by the Town Planning Adviser of the Commission of Conservation.

HAMILTON—The report of the Town Planning Conference, held at Hamilton in June, has been issued, and a Town Planning Commission has been appointed by the City Council. The members appointed consist of Mayor Walters (chairman), J. J. Mackay (honorary secretary), Controller Morris, Aldermen Ray and

Tirrell, Messrs. G. C. Copley and G. Edwin Main, and City Engineer Macallum. A sum of \$500 has been appropriated to enable the commission to begin its work.

It will consider and recommend the form which town planning legislation should take; also any question relating to the planning and improvement of Hamilton with a view to making recommendations to the City Council from time to time, pending the passing of legislation. Immediate steps are to be taken to secure the preparation of a map showing the existing physical features and buildings in the city area. It is proposed to organize an Arbour day for the children, and to take other steps to popularize the movement for a more beautiful Hamilton. The Toronto World makes the following comment on the action of the Hamilton City Council:—

"Hamilton has easily the prospect of half a million people in view for the next quarter of a century, and may very well profit by the experience of Toronto in this respect. Diagonal roads will have to be provided. The area outside the present city boundaries, which will in due course be annexed, should be regulated under legislative authority, so as to accord with the city plans for the future. Sites for schools, a new city hall in the next ten or twenty years, parks, water supply and sewerage schemes, boulevards commensurate with the importance of the city and linking it with Burlington and other suburbs, and a hundred and one other matters of importance have to be arranged. A civic square, or the acquirement of properties that may be needed in future for public buildings is a point that ought to be noted.

"Hamilton is fully justified in thus providing for the future. Having doubled in ten years, there is no slackening in the development of the manufacturing and other business interests under The Mountain. Half a dozen large factories are at present nearing completion, and the million dollar hotel is also well forward and will be the pride of the city.

"Topographically, Hamilton has many advantages over Toronto, the Gore alone giving it a metropolitan aspect which the city fathers of Toronto could never be persuaded to appreciate in the days when something of the sort was possible. The Mountain, too, sneered at as it may be by those who live on level plains, is a most attractive feature, especially for residential purposes. The substantial business basis upon which Hamilton rests warrants the civic authorities in looking ahead and avoiding the errors which Toronto did nothing to escape."

BLenheim—At a recent meeting of citizens of the town of Blenheim a resolution was passed calling for the passing of a Town Planning Act by the Ontario Legislature.

NORTH BAY AND KENORA—Resolutions have been passed by Boards of Trade in these towns requesting that a Town Planning Act be passed by Ontario.

SARNIA—Following a preliminary meeting at Sarnia arrangements have been made to hold a Town Planning Conference for Lambton county on October 12.

WINDSOR, SANDWICH AND OJIBWAY—A town conference, to consider the planning of Windsor and the adjacent towns and municipalities has been arranged for October 14.

SIMCOE—The Town Council is considering the question of town planning, and a special meeting will be held to hear an address of the Town Planning Adviser of the Commission of Conservation on October 15.

PORT CREDIT—Following a visit to Port Credit, the Town Planning Adviser of the Commission has submitted a preliminary report, recommending certain action on the part of the Council and Board of Trade to secure the preparation of a town planning scheme.

BERLIN—The Civic Improvement Association of Berlin proposes to convene a Conference of local authorities in Waterloo county for a date in November.

MANITOBA AND SASKATCHEWAN

Work is proceeding on the lines indicated in the July bulletin.

ALBERTA

The revised procedure regulations have been issued under the Town Planning Act, and these are being circulated to local authorities in the province.

NOTE:—Members of City, Town and Municipal Councils and of Boards of Trade interested in public health, housing, or town planning, and desirous of obtaining further information regarding the steps which should be taken to improve conditions in their localities, are invited to communicate with the Town Planning Branch of the Commission of Conservation, Ottawa.

THE MODERN CITY

The Modern City is ever changing, loose in its organization, casual in its form. It grows up, or extends suddenly, no man knows how, in a single generation—in America in a single decade.....In a century, it changes its population over and over again, and takes on two or three different forms. In ten or twenty years it evolves a vast new suburb, a mere wen of bricks or stone, with no god or demi-god for its founder, but a speculative builder, a syndicate or a railway. The speculative builder or the company want a quick return for their money. The new suburb is occupied by people who are so busy, and in such a hurry to get to work that in taking a house, their sole inquiry is—how near is it to the station, or where the tram-car puts you down.....A modern city is the embodiment of indefinite change, the unlimited pursuit of new investments and quick returns, and of everybody doing what he finds to pay best. The idea of Patriotism, Art, Culture, Social Organization, Religion—as identified with the city, springing out of it, stimulated by it—is an idea beyond the conception of modern men.—*Frederic Harrison.*

PROPER MEANING OF SOME HOUSING TERMS

AS there appears to be some confusion in the minds of many as to the meaning of some housing terms the following are suggested as the proper descriptions to apply to different classes of dwelling. The term "tenement house" appears to have been misused in some parts of Canada and to have actually been applied to pairs of semi-detached as well as to crescents or rows of separate dwellings. Such an application of the term is not only erroneous but might prove injurious to owners of property. Many fine residences are semi-detached and in continuous rows in streets. The different terms described below may have different meanings in different parts of Canada, and information on that subject would be welcomed by the Town Planning Branch of the Commission of Conservation.

The proper meaning of "tenement house" is given in the Manitoba Public Health Act and in the Nova Scotia Tenement House Act. These Acts relate to widely separated parts of Canada. The meaning given conforms to the usual legal interpretation of the term and to the description given in any standard dictionary. It is as follows:—

"TENEMENT HOUSE" shall mean any house or building or portion thereof which is rented, leased, let or hired out, or is occupied as the home or residence of two or more families, living independently of each other, but having a common right in the halls, stairways, yards, water closets or privies, or some of them.

The following meanings are suggested as appropriate for other classes of dwellings:

"APARTMENT" shall mean a room or suite of two or more rooms occupied or intended or designed to be occupied as a family domicile. (*Manitoba Public Health Act.*)

"APARTMENT HOUSE" is strictly speaking a high class tenement house, *i.e.*, it conforms to the same general principles as regards tenancy, common rights, character of building, etc., but is of a higher standard. The dividing line between many so-called "apartment houses" and "tenement houses" is hardly visible. For purposes of legislation there should be no distinction between the tenement house and the apartment house.

"DETACHED HOUSE" is the proper term to apply to any dwelling having no physical means of attachment to another dwelling. The terms "single house," or "separate house" are misleading, as they apply equally to individual dwellings in rows or terraces.

"SEMI-DETACHED HOUSES" should be applied to pairs of houses connected by a common gable or wall of any kind, but not to pairs of houses superimposed one on the top of the other. To describe semi-detached houses as "tenements" is absurd, and the term "duplex houses" would apply equally to two storey flats if each storey formed one dwelling.

"TERRACE HOUSES" are three or more houses erected in a row and forming a terrace or attached group. Such rows may consist of fine residences separately owned, as in parts of Montreal, and therefore cannot be properly designated as "tenements."

"FLATS" are houses on one floor, and may also be tenement houses, but not always so. They are also "apartments," but if approached by direct access from the street in each case are not "apartment houses." For instance, a one-storey dwelling above a shop with separate access can only be described as a flat or an apartment. There are also two-storey flats and three-storey flats. The latter are found in many parts of Montreal and each double or triple flat has separate access from the street although having two or more storeys. The same terms "two-" or "three-storey flat" should apply to houses of two or three storeys over shops if they have separate access, but such houses when two or more have access from a common staircase or hall would be "tenement houses."

“OUR buildings, fences, highways and railways, not to speak of our towns, are often scars which mar the face of nature, without possessing any compensating beauty of their own. It is evident that beauty in ‘the surroundings of life’ is not to be had in this modern day without taking thought and exercising a vigilance.”—Charles Eliot.

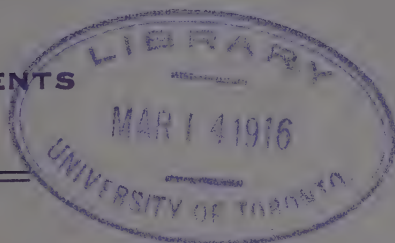
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Conservation of Life

PUBLIC HEALTH, HOUSING AND TOWN PLANNING

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Conservation of Canada*

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Conservation of Life

Vol. II

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No. 2

TOWN PLANNING AND CIVIC IMPROVEMENT IN CANADA*

BY

FIELD MARSHAL H. R. H. THE DUKE OF CONNAUGHT

SIR John Willison, ladies and gentlemen: In these stirring times, when practically the only occasions on which I speak are meetings to promote the warlike energies of the Canadian race or to assist or try to encourage the very patriotic and the very generous impulses of all Canadians, both men and women, it is an especial pleasure to be present on an occasion like this, where we are dealing with a question which has nothing to do with war, and is entirely free from its anxieties, one which, I think, is deeply connected with the whole of the social life and improvement of this vast Dominion. From the very first, since I came out to Canada, it has struck me that we were not sufficiently energetic, and that we did not take sufficient interest, in that very important question which is now generally called town-planning. It is a very general expression, for, to my mind, it means everything connected with the future of our cities, of our towns, aye, of the country in general. You may say: Why do I say that it is such a general term? The reason I make some point of this is that in any place, wherever we lived, all the surroundings that we have there are connected with this one important question. It connects with health, it connects with convenience, it connects with sanitation, it connects with beauty. Therefore, it appears to me that there is no object, of greater importance for the future advancement of our cities in Canada, than to recognize that whatever we do in the future for our cities ought to be done with an aim, ought to be guided by certain distinct principles. This refers particularly to questions of water, drainage, communication, planning and beauty. The consideration of these questions must be combined, if we intend to run our cities in the admirable way in which the cities in parts of Europe and in the United States are run.

*Address delivered at the opening of the Conference of the Civic Improvement League of Canada—Ottawa, January 20th, 1916.

I rejoice to think that there is feeling springing up generally among all the present, and, I hope, the rising generation too, that we should make good this rather weak point in our Canadian administration, that we should interest everybody, of all classes, in the urgent necessity for carrying out improvements on proper lines. There are few questions more interesting and there are few questions that produce so great a result. I have seen several of those town-planned cities in England, and I have been greatly struck with the extraordinary common sense manner in which those cities have been built. They have been built in a practical way, they have been built in an artistic way, and they are most comfortable to live in. There is a very healthy tone throughout the people who are living in these places. It seems to promote feelings of satisfaction and feelings of health, and I cannot but think that if any Canadians are going over to England—and if they have any time to spare,—if they would visit one of these cities they would be deeply interested to see what can be done in a small way and in a very practical way to promote what should be the object of our town-planning in Canada.

Gentlemen, I feel that there are so many of you here that are so much more capable of speaking on this subject than I am, that I have no right to take up your time. But I wish to assure you of the very warm interest I take in this question. I am very pleased to see so large and influential a meeting and to see that many of you come from all parts of Canada. It is a very satisfactory thing to see, and I congratulate Sir John Willison on having such a good attendance. I hope that the very best results will attend you, and that, year by year, a deeper interest will be taken in this whole question.

CIVIC IMPROVEMENT LEAGUE OF CANADA

INAUGURATION OF THE NEW LEAGUE AT SUCCESSFUL OPENING CONFERENCES

AS a result of the article on the subject of a proposed Civic Improvement League for Canada, which appeared in the last issue of *Conservation of Life*, the first steps have been taken to inaugurate such a league. The response to that article, in the form of expressions of interest and willingness to co-operate, was remarkable. Communications were received from about 700 representative citizens in about 400 cities, towns and districts in all the provinces.

PRELIMINARY CONFERENCE

The first step taken was the holding of a preliminary conference in Ottawa, on the 19th of November. Invitations to this conference were sent to representatives of existing Civic Improvement Leagues, Boards

of Trade and other bodies which had shown some activity in connection with civic affairs. The conference was attended by about seventy men and women who had been prominently identified with municipal or public health work in the Dominion. An abbreviated report of this preliminary conference is issued as a supplement to this bulletin, and a full report can be obtained on application being made to the Commission of Conservation.

NATIONAL CONFERENCE

At the preliminary conference it was decided to hold a national conference in January, and the meeting constituted itself into a provisional committee to make the arrangements, afterwards delegating its powers to a sub-committee to be selected by Sir John Willison, the chairman. The national conference was subsequently convened, and was held in the large Railway Committee room of the House of Commons—now unfortunately destroyed by fire—on the 20th of January, this being the date succeeding the annual meeting of the Commission of Conservation. The following is a brief report of the proceedings; a full report of this conference will be published in due course. The Chair was occupied during part of the day by Sir John Willison (Toronto) and during the remainder by the Hon. J. J. Guérin (Montreal). Field Marshal His Royal Highness the Duke of Connaught opened the conference, and the Mayor of Ottawa welcomed the delegates on behalf of the city.

REPORT OF PROVISIONAL COMMITTEE

The following report of the provisional committee was adopted:

At the preliminary conference of the League, held on the 19th of November, it was decided to hold a further conference in January and the question of determining the place and date of meeting was left to the provisional committee. Owing to the size of the committee the duty of making preparation for the general conference was left to a small sub-committee to be appointed by the chairman, Sir John Willison. After considering all possible alternatives, Ottawa was selected for the first conference, and the most suitable date was found to be January 20th.

Invitations to the conference were issued by the Commission of Conservation accordingly. These were sent to the following:

- Members of the Senate and House of Commons
- Provincial Governments
- Provincial Boards of Health
- City and Town Councils
- City Improvement Leagues and kindred organizations
- Boards of Trade and Chambres de Commerce
- Engineering, Architectural and other societies
- Local Councils of Women
- Fire Chiefs and Fire Prevention Associations

Members of provisional committee and those who have written expressing a desire to become members of the League.

The three matters that received consideration of the provisional committee were:

(1) The form of constitution of the League, and the confirmation or amendment of the decisions arrived at on this matter at the preliminary conference; (2) the making of a recommendation of the list of names of those who should form the first Dominion Council of the League; and (3) the preparation of a programme for the January conference.

CONSTITUTION—With reference to the first question, that of framing a constitution, the committee is of opinion that it is not desirable to take up any large part of the time of the conference with details of constitutional procedure. They hope the constitution will be made elastic and will grow with the League. They therefore suggest that, for present purposes, it will suffice for this conference to confirm the resolutions passed at the preliminary conference subject to the passing of two further resolutions, the first to determine the size and composition of the Dominion Council and the second to refer the further consideration of all matters to the said Council when appointed.

DOMINION COUNCIL—With reference to the question of how to select the Dominion Council the committee is confronted with a matter of some difficulty. The Council should not be too large and yet should be representative of every province. Both results are not easily obtained, and it appears likely that a large Council will have to be appointed, leaving such Council to select an executive committee from its membership. A possible basis for selection for the Council would be one member for every 100,000 people in each province. To this might be added say 25 members representing such Dominion organizations as the Commission of Conservation and Union of Canadian Municipalities, elected by their respective organizations. The suggested arrangement would mean a membership of 100 as shown in the following table:

Province	Proposed representation
Ontario.....	26
Quebec.....	21
Manitoba.....	5
Nova Scotia.....	5
Saskatchewan.....	5
Alberta.....	4
British Columbia.....	4
New Brunswick.....	4
Prince Edward Island.....	1
Dominion organizations.....	25
<hr/>	
100	

To secure a satisfactory result the committee thinks that the members from each province should select their own representatives, but

this will not be practicable at present. They suggest as the best arrangement for this election that they nominate a nucleus of 58 members so as to allow an addition of a further 42 members to be made by the Council. This Council would act *pro tem*, with power to reconstitute itself and increase its membership, securing, as far as practicable, that the selection of additional names would be made with due regard to the desirability of securing representation of influential associations and corporations whose work and interests are allied to the aims of the League.

The Committee recommends the appointment of Sir John Willison as Chairman of the Council.

The Committee much regrets to record the death of one of the most valued and enthusiastic of our original members, Dr. S. Morley Wickett. His loss is a serious one to the League, as it also is to public life generally.

DOMINION COUNCIL

The Committee recommends that the following 56 members of the provisional committee, with the addition of Mrs. Torrington, National Council of Women, and Prof. Oliver, of Saskatchewan, making a total of 58, be elected as the Dominion Council *pro tem*:

G. Frank Beer, Toronto Housing Co., Toronto, Ont.
 Mayor Walters, Hamilton, Ont.
 Dr. Horace L. Brittain, Director, Bureau of Municipal Research, Toronto, Ont.
 R. O. Wynne-Roberts, Toronto, Ont.
 Noulan Cauchon, Ottawa, Ont.
 Geo. Phelps, North Toronto, Ont.
 E. P. Coleman, Hamilton, Ont.
 D. B. Detweiler, Berlin Civic Association, Berlin, Ont.
 Dr. W. J. A. Donald, McMaster University, Toronto, Ont.
 John Firstbrook, Toronto, Ont.
 J. L. Garland, President, Board of Trade, Ottawa, Ont.
 J. P. Hynes, Toronto, Ont.
 Dr. Franklin Johnson, Jr., Social Service Department, Toronto University.
 J. J. Kelso, Department of Neglected and Dependent Children, Toronto, Ont.
 J. J. MacKay, Secretary, Town Planning Commission, Hamilton, Ont.
 Dr. Helen MacMurchy, Inspector of Feeble Minded, Toronto, Ont.
 W. A. McLean, Deputy Minister of Highways, Toronto, Ont.
 Mrs. Adam Shortt, Local Council of Women, Ottawa, Ont.
 R. B. Whyte, Ontario Horticultural Society, Ottawa, Ont.
 Sir John Willison, Editor *Toronto Daily News*, Toronto, Ont.
 Dr. Frank D. Adams, McGill University, Montreal, Que.
 Dr. Wm. H. Atherton, Civic Improvement League, Montreal, Que.
 G. F. Benson, President, Board of Trade, Montreal, Que.
 H. Bragg, *South Shore Press*, St. Lambert, Que.
 W. H. Dandurand, Montreal, Que.
 Dr. E. M. Desaulniers, M.P.P., St. Lambert, Que.
 J. U. Emard, K.C., Montreal, Que.
 J. J. Fitzgerald, Secretary, Board of Trade, Sherbrooke, Que.
 C. H. Gould, Librarian, McGill University, Montreal, Que.
 Hon. J. J. Guérin, Civic Improvement League, Montreal, Que.
 W. D. Lighthall, K.C., Metropolitan Parks Commission, Montreal, Que.
 Frank Pauzé, President, La Chambre de Commerce, Montreal, Que.
 F. J. Todd, Architect, Montreal, Que.
 Septimus Warwick, F.R.I.B.A., Montreal, Que.
 Frederick Wright, Editor *Municipal Journal*, Montreal, Que.
 Hon. Sydney Fisher, Knowlton, Quebec
 W. Sanford Evans, Board of Trade, Winnipeg, Man.

Commissioner J. H. Garden, Calgary, Alta.
 G. R. G. Conway, Vancouver, B. C.
 W. F. Burditt, Secretary, Town Planning Commission, St. John, N. B.
 R. M. Hattie, President, Civic Improvement League, Halifax, N. S.
 Dr. P. H. Bryce, Immigration Branch, Dept. of the Interior, Ottawa, Ont.
 Frank Darling, Royal Institute of Architects, Toronto, Ont.
 Dr. E. Deville, Surveyor General, Ottawa, Ont.
 Chas. A. Magrath, Chairman, International Joint Commission, Ottawa, Ont.
 Prof. Adam Shortt, Civil Service Commission, Ottawa, Ont.
 Mrs. Smillie, Public Health Com. of N. C. of Women, Ottawa, Ont.
 Bryce M. Stewart, Labour Department, Ottawa, Ont.
 J. S. Woodsworth, Canadian Welfare League, Winnipeg, Man.
 J. S. Watters, Trades and Labour Council, Ottawa, Ont.
 Prof. Macoun, Dominion Horticulturist, Ottawa, Ont.
 Douglas H. Nelles, Geodetic Survey, Ottawa, Ont.
 Sir Clifford Sifton, Commission of Conservation, Ottawa, Ont.
 Dr. J. W. Robertson, Commission of Conservation, Ottawa, Ont.
 James White, Commission of Conservation, Ottawa, Ont.
 Thomas Adams, Commission of Conservation, Ottawa, Ont.

Resolutions were passed at the conference embodying the proposals made in the above report, and a committee on resolutions was appointed for the Conference. A paper was then read by Mr. Thomas Adams on "The present scope for practical work in improving civic conditions."

CONFERENCE PROCEEDINGS

After the address by His Royal Highness the Duke of Connaught (see pages 25 and 26), the discussions were opened and were taken part in by the following:

Municipal Government, Municipal Finance and Unemployment:

Mayor Watters (Hamilton), Mayor Waugh (Winnipeg), Dr. H. L. Brittain, Mr. Franklin H. Wentworth (Boston, U.S.A.), Mrs. Adam Shortt.

Town Planning, Housing and Public Health:

The Hon. Sydney Fisher, Dr. Helen MacMurchy, Dr. Frank D. Adams, Mr. W. D. Lighthall, Mr. N. Cauchon, Mr. J. P. Hines, Dr. Chas. J. Hastings, Rev. Mr. Manthorne.

Immigration and Civic Development after the War:

Chancellor C. C. Jones (N. B.), Dr. G. C. Creelman (President, Ontario Agricultural College), Dr. J. W. Robertson, Mr. G. R. G. Conway (Vancouver), Mr. J. C. Watters (President, Trades and Labour Council), Dr. P. H. Bryce, Mr. G. Frank Beer, Hon. Geo. W. Brown, Mr. T. S. Morris, Dr. Munro, Mr. J. H. Garden (Calgary.)

During the luncheon interval, an address on "Civic Problems in Ontario" was delivered by the Hon. W. J. Hanna, Provincial Secretary of Ontario, in which he forecasted the setting up of a department of municipal affairs in the province at the termination of the war.

The following resolutions were agreed to and referred to the Dominion Council for consideration and further action:

Department of Municipal Affairs—That each provincial government be recommended to create a department of municipal affairs, whereby the best expert advice will be placed at the disposal of municipalities,

and proper control will be secured over municipal finance; and that, in view of the great need for uniformity in sanitary and town planning administration and the exercise of economy in regard to municipal business, the League urges the desirability of early steps being taken to have such a department created in each province.

Federal Department of Public Health—That the League petition the Dominion Government to establish a Federal Department of Public Health, in order that all matters of health and disease under federal, provincial and municipal jurisdiction, the compilation of health literature, the direction of research work and the preparation of statistical records, may be systematized, co-ordinated and unified for the sake of greater economy, progress and efficiency.

Uniform Municipal Statistical Reporting—That a committee of three be appointed to study the question of uniform municipal statistical reporting; that this committee endeavour to secure the co-operation of the Census branch of the Department of Trade and Commerce, and communicate its report to the conference at its next meeting.

Municipal and Vital Statistics—That it is desirable that the Federal and Provincial authorities co-operate in the work of collecting, compiling and publishing the municipal and vital statistics of the Dominion.

Uniform Civil Service Regulations for Municipalities—That a committee of three be appointed to study the subject of uniform civil service regulations for municipalities, and that Dr. Adam Shortt, Chairman of the Civil Service Commission, be requested to co-operate with this committee, which shall report to the conference at its next meeting.

Uniform Municipal Accounting—That a committee of three be appointed to study the subject of uniform municipal accounting, in order that comparisons may be drawn between municipalities of approximately equal size, and that this committee report at the next meeting of the conference.

Town Planning Act—That the Provincial Governments be urged to pass Town Planning Acts as drafted by the officers of the Commission of Conservation, especially in view of the necessity for securing greater economy in connection with the development of land, greater convenience in the layout of streets, and preservation of natural features.

Maps—That topographical maps be prepared for Canadian cities by co-operation between the surveying departments of the Federal government, the Provincial governments and the local authorities.

Planning of Agricultural Districts—That, as the present methods of planning, dividing and settling land in Canada for agricultural purposes have not met with the measure of success which might be expected, having regard to the great natural advantages in the Dominion,¹ the League recommends the Federal and Provincial governments to make investigations into the problem and to consider the need for a more scientific method of laying out the land, so as to encourage greater co-operation among farmers, and secure better facilities for transportation, education and social intercourse.

In view of the conditions likely to arise after the war, and in connection with the return of soldiers from the front, the League desires to specially direct attention to the need for this problem being dealt with in the immediate future.

Immigration after the War—That, to adequately deal with the problems of immigration to Canada which will arise after the war, the Minister of the Interior, as representing the Federal government, be urged to call together for consultation with the officers of the Department, the Ministers and officials of the several provinces dealing with immigration, as well as representatives of any commissions or committees now dealing with problems of unemployment and settlement of public lands, to discuss some definite scheme for dealing with immigration.

That a committee be appointed to draw up a report of suggestions on the immigration problem and to present it to the Economics and Development Commission.

FORMATION OF BRANCHES AND COMMITTEES

(1) *Local Branches*

The next step in the process of building up the League will be the formation of branches in cities, towns and villages. It is hoped that all who are interested in promoting higher standards of citizenship and a more wholesome civic spirit in all our communities will co-operate in this work. In the large cities there are bodies which have indicated a willingness to affiliate with the League, the latest to be formed being the Winnipeg Citizens' League, which has just been started with a sustaining income of over \$5,000.00 per annum. It is hoped that a beginning will soon be made in securing an interchange of statistics and information between the Commission of Conservation and the local branches of the League. In conformity with the decision of the first conference, the organization of Provincial Leagues will be deferred for the present.

(2) *Executive and Expert Committees*

Sir John Willison has struck the following executive committee, to deal with the resolutions passed at the conference, and consider the further steps necessary to carry out the objects of the league:

Provincial Representatives—Ontario, Mr. G. Frank Beer, Toronto; Quebec, The Hon. J. J. Guérin, President, Montreal Civic Improvement League; Manitoba, Mr. W. Sanford Evans; Saskatchewan, Professor Oliver; Alberta, Commissioner Garden, Chairman, Alberta Town Planning Association; British Columbia, Mr. G. R. G. Conway, M. Inst. C.E.; New Brunswick, Mr. W. F. Burditt, Chairman, St. John Town Planning Commission; Nova Scotia, Mr. R. M. Hattie, Chairman, Halifax Civic Improvement League; Prince Edward Island, Hon. J. A. Mathieson, Premier.

National Representatives—Dr. J. W. Robertson, C.M.G., Mr. James White, Deputy Head, and Mr. Thomas Adams, Town Planning Adviser, of the Commission of Conservation; Dr. P. H. Bryce, Hon. Pres. of Canadian Public Health Association; Mr. J. S. Watters, President of Dominion Trades and Labour Congress; Mr. W. D. Lighthall, K.C., Secretary of the Union of Canadian Municipalities; and a representative to be nominated by the National Council of Women.

It is desirable to proceed with the formation of expert committees to deal with special problems. High authorities on financial and engineering questions have expressed a desire to give service in this way. The following are among the subjects which need the study of groups of experts, and those who desire to co-operate or offer suggestions in connection with this matter are invited to do so:

1. LOCAL GOVERNMENT—Form of legislation for creating provincial departments of municipal affairs.
2. MUNICIPAL STATISTICS—Collection of statistics and consideration of uniform standards.
3. MUNICIPAL FINANCE—
 - (a) Existing and proposed methods of accounting and auditing.
 - (b) Control and use of borrowing powers.
4. PUBLIC HEALTH—
 - (a) Legal powers and administrative machinery.
 - (b) Sanitation.
 - (c) Child Welfare.
 - (d) Vital Statistics.
5. TOWN PLANNING AND TRANSPORTATION—
 - (a) Extension and application of legislation.
 - (b) Preparation of maps.
 - (c) Good roads and highways administration.
 - (d) Preservation of natural and structural beauty, etc.
 - (e) Facilities for recreation and open spaces, etc.
6. HOUSING—Forms of legislation and administrative machinery.
7. AGRICULTURAL SETTLEMENTS—
 - (a) Immigration.
 - (b) Planning and grouping of settlers.
 - (c) Co-operation and transportation.
 - (d) Government assistance and facilities for credit.
8. UNEMPLOYMENT—Uniformity of administration, etc.
9. EDUCATION—School and College Courses in Civics, Town Planning, etc.
10. LAND CULTIVATION IN CITIES AND SUBURBAN AREAS—
Extension of work of Horticultural Societies.
11. FIRE PREVENTION IN CITIES AND TOWNS.
12. PUBLIC SERVICES AND PUBLIC UTILITIES.

TOWN PLANNING IN RELATION TO PUBLIC HEALTH

A "TOWN PLANNING" act is an act to plan and regulate the use and development of land for all building purposes. Some reference to the powers it gives to local authorities to secure healthier living conditions may be of interest, in view of the tendency to assume that the town planning movement is only concerned with the lay-out of streets and the securing of aesthetic effects in connection with buildings.

One of the principal objects of such an act is to enable a local author-

ity to secure proper sanitary conditions and amenity within and surrounding its area. To secure "sanitary conditions" means to secure "healthy conditions" and to secure the "amenity" of an area is to secure a pleasing environment and the preservation of natural features.

A town planning act does not contemplate any scheme for remedying existing unhealthy conditions or for substituting amenity for existing disorder, without compensation to those who would suffer as a result of effecting the improvements. It does, however, contemplate and provide for preventing bad sanitary conditions or interference with amenity where new development or reconstruction takes place, without compensation having to be paid for the restrictions upon the user of the land which would have to be made to secure such prevention. In this respect it goes far in advance of the existing law, and secures to an extent not hitherto practicable the removal of the chief causes of many social evils. To remedy the defects of past generations in regard to unsanitary conditions and lack of amenity we must proceed by slow stages, because of the cost of getting rid of vested interests created in connection with these defects. To prevent the repetition of similar evils in future will cost little, except such cost as is necessary to prepare a scheme under a town planning act; and by this means we set up a public health standard which will, in the first place, automatically solve many public health problems in all areas to be developed in future, and, in the second place, help us to attack established evils as a result of comparatively higher standards set up on the newly developed areas.

It cannot be too well-known by advocates of public health legislation that no direct law dealing with public health will be likely to secure such a drastic measure of reform as can be obtained under town planning acts. These acts all include a provision limiting claims by property owners in respect of certain things which are necessary to secure healthy and agreeable conditions. Thus in a town planning scheme a local authority can do the following things without having to pay any compensation, so long as it can satisfy the provincial town planning department that its proposals are reasonable for the purpose of securing proper sanitary conditions and amenity:

- (a) Limit the number of separate family dwelling houses to each acre of land.
- (b) Fix the percentage of each lot to be built upon.
- (c) Fix building lines at a reasonable distance from the street line and provide a minimum amount of space round each building to secure adequate light and air.
- (d) Define separate areas for residential and factory purposes.
- (e) Limit the height, character, and use of buildings and fix the distance between buildings.
- (f) Fix a percentage of a sub-division as a public reserve.

These and other provisions, dealing with drainage, water supply and methods of construction of buildings, can be included in a town planning scheme, and cannot be easily altered, since one scheme can only be revoked by preparing a new scheme, and on good cause being shown. So far as future development is concerned it is therefore by means of town planning acts that most advance can be made in connection with the application of higher standards of public health.

THE GARDEN AS A FACTOR IN SOCIAL WELL-BEING

"A garden is a lovesome thing, God wot!
Rose plot,
Fringed pool,
Fern grot—
A veriest school of peace and yet the fool
Contends that God is not.
Not God! In gardens! When the eve is cool!
Nay but I have a sign:
'Tis very sure God walks in mine."

—*Thomas Edward Brown*

While there are few people who can gainsay that a garden is a desirable part of every home, and that the cultivation of open spaces in the streets of our cities and towns is a pleasant thing, there are not enough people who appreciate the social and moral value of gardening. That value is, in part, illustrated by an incident which took place in the Garden Village at Hull, in England. A house in the village was let to a workman and his wife at \$1.80 per week. Formerly they had lived in a poorer neighbourhood and paid only \$1.20 per week. Knowing that their small earnings had not increased, the architect of the village asked how it was that they could afford to pay a higher rental, considering that before coming to the Garden Village they had had difficulty in making ends to meet. The man's reply was that, in the house in the village, which cost 60 cents more per week than the previous house, he was actually saving 12 cents. The old house had cost \$1.20 for rent and 96 cents for his beer, making \$2.16 in all, the outgoings were now \$1.80 for rent and 24 cents for beer, or a total of \$2.04. So much for the money value. What of the moral value to the man himself and the moral and social value to the home? Another witness to the value of the garden as a reformer is Mr. George Cadbury, of Bournville, who said that, after 40 years' work in the slums of Birmingham, he found that it was almost useless to try and reform drunkards, unless they were taken away from their bad surroundings and given some pleasant occupation, such as gardening, in their spare time. Sir William Lever, of Port Sunlight, expresses the result of his experience in another form. He says that his men are worth a dollar per week more to him in his factory, as a result of living in the garden suburb, with its beautiful architecture and open spaces, instead of in the slums.

Now observe that these were cases in which the experience was with men and women who had become habituated to slum conditions. In some instances, perhaps, the bad habits of a generation had to be overcome—in other words, a deep seated disease had to be cured. Reform, under such conditions, is slow and requires patience, persistence and to act to overcome the difficulties, for, when a slum race is once created,



I. FOREST AVENUE, ST. THOMAS

Showing the result of the joint effort of the Horticultural Society and the railway workers who own the houses. Beds 4 x 20 ft. are planted by the Society (see left of picture) on the boulevard at the street intersections, the beds being planted by the residents on land which is part of the street. Of course the residents also plant and maintain their own gardens.



II. MERCHANTS BANK, ST. THOMAS

This view shows treatment of a business corner. The urns are owned and planted by the Horticultural Society, the owners of the building being responsible for the grass verge and the bed of flowers.

a severe penalty has to be incurred to pay for the indifference which has permitted it to exist. If such good results—and the above are not isolated cases, but illustrate the general experience—if such results follow measures taken to remedy the consequences of bad social conditions, how much greater results may be expected from measures taken to prevent the creation of these conditions.

In Canada we have an opportunity to prevent the slum from coming into being, except in the few places where it has already gained a foothold. It is not enough, however, to legislate against saloons, bad sanitary conditions, or overcrowding. We must have a constructive as well as a destructive policy. Mere restraint of evil tendencies and punishment for evil conditions have never succeeded in raising the moral standard of a people; to be successful, there must also be serious and well organized efforts to encourage good tendencies and attack the causes of evil conditions.

For instance, one way to promote real temperance and education and to encourage the habit of thinking is by means of the garden. Of course, there must not only be the provision of garden space, but also the cultivation in men's minds of a love for gardening, and of an appreciation of beautiful things. In Canada there should be no real difficulty in making it part of our system of land development that all homes should have gardens. We are sometimes told that a reason for not caring about such things is that some of the gardens would be neglected. The question is asked, "Why force gardens on people who do not want them?" Why not do so? Land is plentiful, even the uncultivated lot has uses as a lung in circulating air, and the chances are that in time nearly every man will learn the joy of cultivating the land around his home.

The growing of even a few vegetables by twice as many people as have vegetable gardens at present would enormously simplify some of our problems of economic production, and give so many thousand more families fresher and healthier vegetable food. Considered in relation to a few individuals, these matters seem of small moment but, in relation to the population of the Dominion as a whole, they are of great national importance.

There is an appeal in the garden even to the self-styled "practical" man, who measures everything according to its capacity to produce an immediate cash return. There is also an appeal to the social reformer, so long as he is not one of those who is obsessed by one particular panacea for all social ills, or belongs to that school which is blind to the value of lovely things as a necessity in life.

Gardens have to be considered in connection with the public park, and even the children's playground. Why should the latter look like an uninteresting back yard as it so often does. Gardens have also to be considered as part of the decoration of the residential parts of our cities and towns, both in the fronts and rears of the houses. We also need spacious, properly designed and well cultivated areas around our public buildings to show them off to proper advantage. How many costly structures have been spoiled by parsimony in regard to site. Whatever we do in planning the city or town will fail if we do not make adequate provision for the garden, both public and private, and, even when such



III. BOULEVARD ALONG RAILWAY TRACKS, ST. THOMAS

Just off this picture on the left is one of the principal railway tracks running through St. Thomas. Contrast this with the view of disorderly rears and ugly back premises which are often the only features of some towns seen from the train by the passing traveller.



IV. WILSON AVENUE, ST. THOMAS

Excellent example of economical construction of a street railway. This street shows the best arrangement for cars travelling in a residential thoroughfare. The driveway on either side is in cement and the parking in the centre is laid out by the Horticultural Society, with flower beds at each street intersection.

provision is made, we shall only then have laid the foundations on which the people may erect their buildings and cultivate their gardens.

The plan is needed to start with, but it is in the development that takes place subsequently that we make the worst mistakes. Nor can we expect much progress either in planning or development, nor in getting profit and social advantage from gardening and natural beauty, so long as we persist as a people in allowing unhealthy speculation in real estate. The real estate speculators as a body are the worst enemies of the horticulturist, the town planner, and of those who desire to secure any real and lasting reform in social conditions.

In spite, however, of the difficulties which have been created by dear land and want of town planning, an organized and very successful attempt has been made in several Canadian cities to promote garden-craft and to beautify the streets with the aid of nature. To do this successfully there must be co-operation between the citizens, and the best means of securing co-operative action is through the aid of a Horticultural Society. One of the best managed and most successful of these societies is that of St. Thomas, Ont. The accompanying illustrations, with their descriptions, give interesting examples of the work of this Society.

I. A RESIDENTIAL STREET

In most towns the boulevarding of the residential streets and the treatment of front gardens are attractive in the case of those streets which have comparatively large houses on their frontages, but, in districts and streets where houses are below a certain value, the space in front of them is very often entirely neglected. In some cases it would be better to have it covered with buildings than left in the condition in which we often see it. This absence of care for the appearance of the fronts of their homes on the part of some of the working classes is partly due to the fact that they have so little time and means to devote to such improvements. A great deal, however, can be done by the Horticultural Society to encourage even the working man, whose day is long and whose wages are not high, to improve the surroundings of his dwelling. Indeed, this is one of the most important directions in which the Horticultural Society should perform its work. A little public effort in laying out the part of the boulevard which is public property will in time result in securing that the individual owner or tenant will try to live up to his improved environment. For one thing, if he happens to be the owner, he will recognize that the encouragement of natural growth around his dwelling will add to its value and be a distinct asset when he wants to sell. The view of railway men's homes on Forest avenue, St. Thomas, shows the result of joint effort on the part of the Horticultural Society and the working men owners of the houses fronting on the avenue. Beds—4 feet by 20 feet—are planted along the boulevard between the sidewalk and the pavement and on the corners of the street intersections. One could imagine a street like this with only 16 feet to 19 feet of pavement, instead of the usual 32 feet; this width of pavement would be ample for the domestic needs of such houses, and would make it possible for such large front garden spaces to be reserved without adding too great a burden of cost to small dwellings.

II. BUSINESS STREETS

The second view shows the treatment of a business corner where the offices of the Merchants Bank have frontage on two streets. The return frontage on the side street is shown here, the other front facing the main business street. The urns are owned and planted by the Horticultural Society and it is probably its example which stimulates the owners to do a part in this work of decoration. The owners of the building are responsible for the grass verge and bed. This and other beds in the city are planted for spring bloom with tulips. Every bed is different. The total amount expended last year in St. Thomas for flower beds, etc., was \$4,500.

This view is significant of what might be done to improve our business streets. Many residential areas are attractively laid out and most people regard it as a matter of course that they should be so. In business streets, however, it is equally regarded as a matter of course that they should be without any trees or floral decoration and the absence of order and beauty is regarded as a price to be paid for presumed commercial advantage. This view and the extent to which urns are placed in other parts of the business streets in St. Thomas indicate what might be done to make our shopping thoroughfares more pleasant. It is the business streets of a town which are most under public view and are seen most by the temporary visitor and it is to the interest of every town to make them more attractive. As in the residential street, the efforts of the private individuals have to be supplemented by the work of a Horticultural Society to get an effective result.

III. RAILWAY SURROUNDINGS

One of the most disappointing features of our small towns in Canada is the miserable appearance of the station surroundings and the poor and untidy character of the property erected along the sides of the railway tracks intersecting the towns. Towns with picturesque sites and fine residential districts have all their pleasant features hidden from the view of the passing traveller, who sees nothing but dirty yards and broken down buildings at the sides of the railway tracks. Perhaps in one of the yards he will see an advertisement setting out the advantages of the town for business or residence, and actually in itself increasing the depressing appearance of the town which it is advertising. St. Thomas believes in the right kind of publicity, as will be seen from the third illustration showing a boulevard which lies along the tracks of the Michigan Central railway. The passengers in the train remember St. Thomas long after they forget the unsightly bill-board, advertising the advantages of some other town; they get that good first impression which is so valuable and they talk to others of what they see. The grass verge shown on the picture is kept in order by the City Council and the flower beds 20 feet by 4 feet are planted by the Horticultural Society.

IV. STREET RAILWAY TRACKS

The view of Wilson avenue indicates how we can lay out some of our street railway tracks more economically and attractively. The cars running over rails laid in gravel and grass make less noise than in

paved streets, and this, together with the parkway effect given to the street, enables the residential value of the street to be maintained at a high level. Under ordinary conditions a street railway is injurious to residential property. The driveways at the sides of the tracks are laid in cement and the parkway is laid out in grass and adorned with flower beds at every street intersection. It is much cheaper to lay railway tracks on sleepers in gravel beds than to construct them on concrete foundations with wood or granite blocks on the surface.

In Liverpool, Eng., the city engineer has proved to the satisfaction of his Council that, where street railways are laid, he can construct a street 120 feet wide cheaper than a street 80 feet wide because where he has the extra width he can save \$15,000 per mile in construction by laying the rails on sleepers in grass verges. In many European cities, where land is much scarcer than in Canada, the parking of streets is being carried out with a saving in the cost of construction, and with the result that the tendency of well-to-do residents to migrate outside the cities in order to get attractive surroundings has been largely stopped. It pays to protect and improve the residential district of a city, because it is only where the average property values are kept high that taxes can be kept comparatively low. In some purely residential towns the local taxes are half what they are in most industrial towns, due almost entirely to the average assessed value of buildings being so much higher in the former case. In spite of this some towns have been destroying their residential districts by permitting—and even encouraging by bonus and otherwise—the erection of factories adjacent to their best residential sites. It might be worth consideration whether in future a bonus should not be given to a Horticultural Society, leaving the industrial growth to proceed in a natural and, therefore, more healthy way, but subject to more control as to the location of the factories. At any rate it is evident that we should do more in Canada to encourage public and private gardening in our cities and towns. As a factor in social well-being the garden has been too little appreciated.

PROPOSAL FOR AN INTERNATIONAL MUNICIPAL INSTITUTE

THERE is need for an International Municipal Institute similar to the International Institute of Agriculture. Almost all the countries of the world have united in forming the latter, for the purpose of promoting agricultural interests and disseminating information regarding agriculture throughout the entire world. There are 55 adhering states, each of which contribute to the cost of maintenance of the headquarters at Rome. The Government of Italy is the largest contributor. Mr. David Lubin, an American, was the originator of the idea, it being afterwards taken up and made an accomplished fact by the King of Italy, in 1905.

A bureau of general statistics is maintained and information is periodically distributed to all the countries represented. In its *Year-book of Agricultural Statistics* the Bureau publishes the official statistical information in regard to crops, live stock, wages, areas, population, etc.,

in the 55 states. A monthly bulletin of economic and social intelligence is also issued, and special monographs on agricultural subjects are published from time to time. Measures are occasionally submitted for "the approval of the governments" for protecting the common interests of farmers and the improvement of their conditions.

Canada is one of the adhering countries, and Mr. T. K. Doherty is the Canadian commissioner to the Institute. The commissioner publishes a Canadian bulletin of information and statistics every month, which is distributed throughout the Dominion.



INTERNATIONAL INSTITUTE OF AGRICULTURE, ROME

This brief reference to the activities of a unique and valuable agricultural institution is given for the purpose of suggesting the desirability of a similar international organization, to collect and disseminate statistical and other information regarding municipal life and work throughout the world. Everyone who has any knowledge of the conduct of municipal business, knows how pressing is the need for more information on municipal questions, for the study of comparative standards, for the collection of data regarding the management of finance, public utilities, town planning, public health, etc. Mistakes are being made and repeated from day to day for want of such expert guidance as can only be obtained from a wide source of information not now available. The matter is one which at least affords food for thought. It would not be practical to take any step to form an Institute which could include European countries till after the war, but a beginning might be made on the American continent, and one could hardly conceive a more fitting object to which a wealthy man, interested in promoting the social welfare, could devote some of his surplus means.

SETTLEMENT OF AGRICULTURAL AREAS

*Need for better planning and a constructive policy
in regard to colonization*

IN the agricultural areas of Canada there is a crying need for a constructive policy, to enable colonization to be carried on under conditions which will produce greater stability and ensure permanent settlement. There is general agreement that the present methods are not satisfactory, and that the system of land-division is partly responsible for the failure. Many different reforms have been suggested, and have sufficient plausibility to be worthy of being enquired into. We need rural planning as well as town planning.

The need for reform has been emphasized as a result of discussion of the problems likely to arise in connection with returned soldiers. These men will want to earn a livelihood, and it has been suggested that many will desire to turn to farming for that purpose. If that desire should exist to any great extent; do we regard ourselves as being prepared to cope with it? In the Old Country they are considering schemes to develop small holdings for returned soldiers, but, if men who return from war want to get back to the land, is it not likely that Canada can offer better attractions than any other country, if we have the right system to make the most of the natural advantages we possess? If, with the return of peace, there is to be a great demand for land we not only need to have the supply to meet that demand but the right conditions to organize and distribute the supply. This is a problem which is closely connected with town development, but it is also a problem which involves a certain amount of replanning of the agricultural areas themselves. Many people, including those accustomed to living in rural districts all their lives, crave the social attractions of the towns. A factor which induces people who are habituated to rural conditions to migrate to the towns will be present in a stronger degree in connection with attempts to settle men who, like returning soldiers, have enjoyed the intercourse and facilities of town life. Such men are not likely to take kindly to living on isolated farms in districts remote from populated centres.

NEED OF AGRICULTURAL COLONIES

What is likely to be needed is the establishment of a few well-planned agricultural colonies on good and accessible land. They must be planned in such a way that there will not be an entire absence of facilities for social intercourse, co-operation, transportation and ready means of marketing. All these things are necessary in combination to make farming pay, and, unless we can make farming pay, we cannot solve the problem of rural depression. Consideration will have to be given to the provision of capital, the training of inexperienced men, the selection of suitable areas, and the proper planning of agricultural colonies.

PLANNING AND RURAL INDUSTRIES

In properly organized agricultural colonies, such as those which exist in Belgium and Holland, it is essential to have indoor rural industries situated in the village centres, and such industries could provide employment for many men who are unsuited or unwilling to take up agricultural work. The establishment of rural industries in Canada is a matter which might very well receive encouragement, apart from the question of providing for returned soldiers, with a view of increasing the number of small towns in agricultural districts and lessening the congestion of the larger cities. Decentralization of our manufacturing industries is as desirable in the interests of the healthy town as it is in the interests of agriculture. It is desirable that Canada should encourage new settlers to migrate to the small villages and towns, rather than, as in the past, to provide attractions for them to congregate in large cities. The more widespread the population is the more healthy it will be, and the more it will help to solve many problems which have been created by our having thinly scattered agricultural population on the one hand and overcrowded cities on the other. The problem of providing for the returning soldiers and for the anticipated increase in immigration would seem to provide the opportunity for making an experiment in linking up the amenities and facilities of town life with the healthy conditions of the country.

Indoor rural industries develop individual skill, taste, and character. They offer work and social amenities which are more congenial to many of the sons and daughters of the farmers than the work and conditions of the farm. In such industries articles could be produced which would be wanted by the farmer, at the same time creating a population which would need part of the produce of the farm, thus providing an interchange of markets in close proximity to each other. In Belgium and Northern France the cultivation of the soil is only made profitable by reason of the work done and the money in the homes of the peasants during the winter. In one neighbourhood alone, 36,000 people live on 30,000 acres engaged on the land in summer and in hand embroidery, lace making, ironmongery, brush making, wood carving, etc., during the winter. The Canadian climate is peculiarly adapted for indoor winter work and, by proper planning together with the employment of electricity for power, small village industries can be made as profitable as large city industries.

NEED FOR SCIENTIFIC METHODS

Some of the scientific methods, knowledge, and money which have helped to create the great railway system and manufacturing centres of Canada might very well be directed for a time in helping to build up a system of colonization which would make agricultural life more attractive and add immensely to the resources of the Dominion and the utility of the railways themselves. We have seen in the past few years that mere growth of population is not in itself a means of increasing material wealth—it is only when that growth is properly directed and controlled that prosperity comes with the increase.

When the tide of immigration again begins to flow it will be too late to devise means to properly direct it. It is our duty to apply all our schemes of planning and social readjustment so that the war will leave us richer and not poorer in regard to our economic conditions, the stability of our productive enterprises and the health of our people. We in Canada at least need not, if we choose, face a situation in which our industries are paralyzed because we have failed to prepare for peace, which is just as necessary as to prepare for war.

A scheme to successfully attain the desired objects must be so framed as to make the utmost use of individual enterprise, to attract the right kind of men with small capital and give some security of their success, to enable some financial support to be given to such men, to secure the utmost use of co-operative facilities in the making of purchases and distribution of produce, and to provide the necessary social and educational facilities within easy range of the homes of the settlers.

PROVINCIAL DEPARTMENTS OF MUNICIPAL AFFAIRS

THE need of the hour in Canada in connection with the improvement of civic conditions is concentration on those measures of reform regarding which there is general agreement, leaving for more propitious times the advocacy of reforms which are likely to produce controversy. Time given to social problems at this juncture in our history should not be taken from the time we need to give in promoting the cause of war, and the fact that we are at war means that we have only short intervals to spare from the national duties we have to perform. We have to consider how to use these intervals to the best advantage.

The selection of the measures which need to be pressed forward most urgently is always a difficulty for those who are confronted with the urgent demand for social improvement. That is partly because we fail to recognize the importance of doing what is along the line of least resistance in times like these. Of course we have to see that the line points in the direction of the ideals we wish to attain, but so long as it does so we should concentrate on securing that measure of advance which is immediately practicable.

The greatest need in regard to the improvement of our administrative machinery is that a Department of Municipal Affairs, or a Local Government Board, should be created in each province. That need arises from the fact that we require more uniformity in regard to measures which are necessary to secure (1) real and effective economics in the conduct of municipal business, (2) lower rates of interest on municipal borrowing, (3) greater efficiency in carrying out public undertakings, (4) proper auditing of municipal accounts, (5) prevention of fire and a consequent reduction in the cost of fire insurance, (6) proper control of labour difficulties during periods of slackness in employment, with the least harmful results to the citizens affected during such periods, (7) enforcement of sanitary provisions, (8) avoidance of recurring mistakes in administration due to isolated local action, (9) reduction in cost of local improvement without lowering of standards of construction,

(10) unification of the methods of valuing land for assessment, and other matters.

We cannot overcome the defects of human nature in the personnel of councils, commissions or other bodies by legislation, but we can reduce the opportunities for bad management by setting up the right kind of machinery. At present we have a system of municipal government which is inherently bad, because it lacks uniformity on the one hand and elasticity on the other, and to go on tinkering with it is to waste time and effort. We need a constructive policy which has for its final aim the substitution of a new system for that now in force. We need not begin by destruction or radical reform of our existing local government institutions, but we should aim at ultimately securing a final readjustment of our system, so that it will attain even higher standards than those of the Mother Country, where democratic local government is comparatively successful.

As a beginning, we should recognize the need for apportionment of responsibility between the province and the local government unit—be it city, town or rural municipality—and make the first step in reform the setting up of a provincial department, with a Cabinet Minister at its head, to give exclusive attention to affairs of local government. There are the beginnings of such a department in Alberta and Saskatchewan, but even in these provinces the question of giving them enlarged powers and wider scope requires consideration.

One of the most serious causes of bad sanitation is the absence of effective control over new developments just outside the boundaries of cities—in rural municipalities, and, until we have a uniform sanitary and public health standard for all urban growth, whether within the city or just over its borders, we will continue to have unhealthy conditions. With regard to the question of the fixing of values of land for purposes of assessment, we have a position at present in many cities which contains all the elements of ultimate financial disaster unless we make an early attempt to regulate it. Bondholders frequently apply to government departments for statistics to enable them to judge of the soundness of investments in city bonds, and they show a nervousness and lack of confidence in making these investments which is caused by our careless methods, and is not justified by any lack of real stability in our institutions. That there is need for some stocktaking and re-appraisal of values is indicated by the fact that in more than one province we have an average assessment value per capita of nearly \$1,800 as against about \$550 in other provinces. In the largest cities and towns of Scotland the capital value of the assessed valuation is only \$520 per capita, notwithstanding that every street along which buildings are erected has been constructed according to the best modern standards. An owner of land and improvements in a Scottish town can raise about three-fourths of this assessed valuation on mortgage at from 4 to 5 per cent.

It was welcome news to those interested in better municipal government to hear* from the Hon. W. J. Hanna, the Provincial Secretary of Ontario that it is the intention of the Ontario Government to introduce a measure to create a Department of Municipal affairs for the Province at the close of the war. But why should there be any delay? Such a

*Speech at Civic Improvement Conference, Ottawa, January 20th.

department would be a good investment to the taxpayers and the cost of its administration would be small compared with the saving which could be effected by its means.

PROGRESS IN TOWN PLANNING DURING 1915

THE progress in regard to town planning has been substantial and satisfactory during the past year, in spite of the conditions created by the war. There would, of course, have been more practical results had these conditions not existed, but on the other hand the war has, among its other effects, caused Canadian citizens to take a deeper interest in many civic and economic problems, which they have hitherto been apt to ignore or overlook, and, so far as the planning of cities and towns tends to secure the conservation of resources in connection with civic affairs and industrial development, it has a special appeal to Canadians at the present juncture.

The following resumé deals, first, with legislation, and second, with its practical application.

1. LEGISLATION

Nova Scotia—The Nova Scotia Town Planning Act, which was passed in April, 1915, is probably, the most advanced legislation in town planning on the statute books of any country. If town planning fails in Nova Scotia it will not be for want of intelligent appreciation of its advantages on the part of the Legislature. The effect of the Act is that town planning is now compulsory for the whole of Nova Scotia. Every district must have its Local Board, and every Local Board must approve all new development and prepare a set of town planning by-laws or schemes.

Since the passing of the Act three new sets of regulations of a comprehensive character have been drafted, partly to meet entirely novel conditions.

New Brunswick—New Brunswick has had a Town Planning Act in operation since 1912. It is a good Act, but entirely optional, like the British Act. During the year the procedure regulations have been revised by the New Brunswick Government and sent out to local authorities.

Quebec—A draft Town Planning Act in English and French has been submitted to the Premier of Quebec, and copies sent to each member of Parliament. It will receive careful consideration, and it is hoped that an Act will be passed in Quebec this year. Petitions have been presented to the Government urging the passing of legislation as a result of conferences held at Sherbrooke (representative of all the eastern townships) St. Lambert and elsewhere. Among other bodies that have sent in resolutions is the Montreal Chambre de Commerce and other French organizations are giving support.

Ontario—Representatives of about fifty towns in Ontario have met in conference at different times during the year and have petitioned for town planning powers to be granted to them. A draft Act has been submitted to the Premier and the Provincial Secretary, and it is hoped it will be considered during the present sitting of the Ontario Legislature.

Manitoba—A town planning bill has been introduced in the Legislature during its present sitting. At the time of writing it has passed the second reading, and has been revised by the law amendments committee of the House.

Saskatchewan—The draft Act of the Commission of Conservation has been revised by the legal advisers of the Saskatchewan Government, and is being introduced during the current session of the Legislature.

Alberta—The Alberta Act has been in force since 1912, but no procedure regulations were issued until this year. They have recently been printed and distributed.

British Columbia and Prince Edward Island—The question of introducing a town planning bill in British Columbia and Prince Edward Island is under consideration.

2. LOCAL APPLICATION OF TOWN PLANNING

The following is a brief description of the local activities of the Town Planning Branch of the Commission of Conservation:—

Nova Scotia—During the year meetings have been held at Halifax, Dartmouth, Yarmouth, New Glasgow, Stewiacke, and Truro. Local Boards have been formed in several towns under the new Act and advice has been given as to their work. Assistance was given in defining an area of Halifax which has been set aside for residential purposes.

New Brunswick—Visits have been paid and conferences held at Fredericton, St. John, Sussex, and Moncton. At St. John assistance has been given in preparing a town planning scheme for about 20,000 acres.

Quebec—At meetings and conferences in Montreal, St. Lambert, Quebec and Sherbrooke great interest has been shown in town planning. The Sherbrooke conference represented the whole of the eastern townships, and was unanimous in support of town planning legislation being passed.

Ontario—A town planning report has been issued by a Citizens' Committee of Brantford. Visits, meetings and conferences have been held at Renfrew, New Liskeard, Toronto, Port Credit, Hamilton, Simcoe, St. Thomas, Blenheim, Windsor, Sarnia, Welland, Galt, Berlin and other towns.

A preliminary scheme has been suggested for Renfrew, after a survey of the conditions. Good practical results are expected in the near future. Reports on schemes for Port Credit, Simcoe and Blenheim have been made. At Windsor a conference was held representative of the five adjacent towns which are together growing up into a great city opposite Detroit, namely, Windsor, Sandwich, Walkerville, Ford and Ojibway. It was decided at the conference that all these districts co-operate in a town planning scheme. The United States Steel Corporation has acquired 1,000 acres to build a new town at Ojibway, and has promised to co-operate in such a scheme. It intends to make its part of the development a model of its kind.

At Hamilton the practical result so far has been to induce the corporation to appoint a Town Planning Commission and to supply it with funds to prepare a map of the city. The great need in Ontario is for legislation to enable cities and towns to make the work they are already doing really effective. Meetings will shortly be held at Kenora, Port Arthur, London, Trenton and other towns.

Manitoba, Saskatchewan and Alberta—Meetings have been held to promote town planning at Regina, Swift Current, Medicine Hat, Calgary, Edmonton, Saskatoon and other western cities.

British Columbia—A report on the planning of Greater Vancouver and on the results of the competition for designing the Vancouver Civic Centre was issued during the year. The Town Planning Branch of the Commission of Conservation has been invited to advise regarding the planning of Central Park, belonging to the Government of British Columbia.

3. HOUSING SURVEYS, ETC.

During the year consideration has been given to the question of preparing suggestions for a Housing Act to be submitted to the provinces. Before framing a draft Act it was decided to make a careful investigation into the industrial, social and housing conditions of a particular city. For reasons of convenience Ottawa was chosen for this purpose, and the investigation is now proceeding. When completed the results of the inquiry will enable practical suggestions to be made for improving housing conditions.

4. CIVIC IMPROVEMENT LEAGUE

The work of the Commission of Conservation in regard to town planning and housing reform has shown the necessity of having some voluntary organization formed in the Dominion to secure a more effective interest in civic affairs. The Civic Improvement League, formed for this purpose, has been successfully inaugurated, and a brief report of the first conferences is given in this issue of Conservation of Life.

5. FUTURE WORK

With regard to the future, there is ample scope for the energies of the officers of the Commission of Conservation in merely putting a finishing touch to work already begun. Every effort will be made to secure the passing of legislation to deal with town planning in all the provinces. The continuation of the housing survey of Ottawa and the framing of a draft Housing Act have to be undertaken. As a central bureau for information on civic improvement, including town planning, housing, and public health, the Town Planning Branch has to be prepared to be of service wherever required in the Dominion.

It is an interesting feature of the correspondence of the Town Planning Branch that many requests have been made for information from the United States, including requests for advice as to how they can accomplish what we are doing in Canada.

OH! if only those who rule the destinies of nations would but remember this—if they would but think how hard it is for the very poor to have engendered in their hearts that love of home from which all domestic virtues spring, when they live in dense or squalid masses, where social decency is lost, or rather never found—if they would but turn aside from the wide thoroughfares and the great homes, and strive to improve the wretched dwellings in the bye-ways, where only poverty may walk—many low roofs would point more truly to the sky, than the loftiest steeple that now rears proudly up from the midst of guilt and crime or horrible disease, to mock them by its contrast. . . . In the love of home, the love of country takes its rise; and who are the truer patriots in time of need—those who venerate the land, owning its wood, and stream and earth, and all they produce, or those who love their country, boasting not a foot of ground in all its wide domain?

The Old Curiosity Shop, Chap. xxxviii.

Conservation of Life

PUBLIC HEALTH, HOUSING AND TOWN PLANNING

*Quarterly Bulletin issued under the direction of the Commission of
Conservation of Canada*

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SOME AFTER-WAR PROBLEMS

Among the chief of the after-war problems will be:

- (1) The care of the permanently injured soldier on his return.
- (2) The disposition of the partially disabled.
- (3) The finding of suitable employment for the thousands who will not be wounded or sick, yet will have no capital and many no skilled occupation.
- (4) The caring for the families of those who are needy or do not obtain employment, yet who will not get pensions adequate to their maintenance, without employment.

Clearly those who are maimed for life or have become tuberculous or mentally unbalanced will be sent back to their several provinces or military divisions; while, as is at present being done, those not finally drafted out as incurable with full pensions or certified as cured and capable of resuming their previous employment are being dealt with in convalescent homes. In necessary cases the Soldiers' Aid Associations of the different cities are dealing with the few hundred who so far have returned. Such for the most part have been readily placed in employment; but we must realize that presumably within six months after the war is ended over 200,000 soldiers will return to civil life in Canada, of whom some 150,000 are British born and of whom, so far as limited statistics show, a notable percentage are unskilled labourers. How are such large numbers not only to be assisted temporarily and kept from becoming dependent upon private or public charity, and how are they to become absorbed, as far as they are fit, by the various occupations of the country and become again members of the society of those localities where they previously had belonged. It is quite evident that the first and natural step is for them to be returned, as is now the case, to their several military districts. In each of these, there are now several convalescent hospitals with their Soldiers' Aid Associations. How such will require to be increased may fairly readily be estimated by the Hospital Commission based upon their past experience. What is now being done is that such associations are finding employment for those drafted out by keeping a list of the occupations of the men returned and a list of employers willing to give work of different kinds.

RETURNED SOLDIERS

The drafts out of the Service in Ontario give the following particulars:—

The number returned to May 15 1916, totals 4,191 officers and men, to which may be added 917 undesirables and 635 returned for other

purposes. The latter number includes medical students, etc., or grand total, including officers and men, medically unfit and undesirables, of 5,743. The number at present in the various Convalescent Homes, Sanatoria, etc., is about 800, but what proportion of these are non-overseas men is not known. About 900 are on pay at their own homes and will receive treatment otherwise than as in-patients of a Convalescent Home.

PROPORTION OF UNSKILLED LABOUR AMONG RETURNED SOLDIERS

It is quite plain that the proportion of unskilled labour on this basis will present a serious problem. The success of our official and social work after the war will depend primarily upon the preparedness of the communities, to which soldiers return, to assist them in finding work either at their old occupation or at some other employment. It is apparent that at least one third of the soldiers are casual labourers. It might be supposed that these could again take up the work they laid down when they went away; but it must be remembered that the number of unemployed in all parts of Canada in July, 1914, was very large indeed, and that relief was given to a very considerable number during the following winter. It seems also probable, when the special classes of work created by the war have ended, that a similar lack of employment may exist, since very few other kinds of work in our cities have in the interval been created and few of our industries have been enlarged. The creation of new industries must depend upon a demand for new products and the obtaining of necessary capital. The first is not probable, while as regards the latter we know very well that the enormous amounts of capital available in Britain before the war for foreign investment have already been largely absorbed in war loans. So we must assume that the development of new industries in Canada will for a time prove slow and that, since our great railroads have been built, no great extra employment will be found upon them.

ENCOURAGEMENT OF AGRICULTURE DESIRABLE

But there is always one industry which we in Canada with our hundreds of millions of acres can always develop, to our individual and national advantage, with certainty of success even if not of high remuneration. This is agriculture. Some of us may say that there is a limit to the amount of output of farm products which can be sold at good prices. But we have to remember that we in Canada live adjacent to a nation of over a hundred million people which has not been at war, where prosperity of a high order now prevails, and with a purchasing capacity greater than ever before. Probably about 12,000,000 of people have been added to its population since the last census by natural increase and through immigration. Moreover, we know that in the most productive and profitable of farm products, those derived from dairying and cattle-raising, the supply in the United States has for years been falling short of the demand. For instance, at a recent meeting of the Chicago Bankers' Association, \$250,000 was set apart for loans to farmers who would guarantee to purchase high-grade milch cows. The need for supplies of milk to Illinois cities is made clear when it is stated that, while the popu-

lation of Illinois has increased over 2,000,000 since 1890, the number of milch cows is 275,000 less. We thus see the phenomenon of city business men realizing that their prosperity is so closely linked up with rural problems that they lend money to improve the grade of stock for purely business reasons; while the Dairy Commissioner of the State insists that he will not be satisfied until Illinois has added 100,000 Holstein cows to the farms of the State.

Now it may seem unnatural and superfluous that our city charity associations should interest themselves in the problem of rural development in this country; but I do not propose to approach the subject from a purely economic standpoint since we are primarily thinking of solving a social problem. Doubtless many returned soldiers will go to their homes in the city or country and revert to their old occupations. What of the rest? Many of them are town-bred and are not agriculturists. Now what must we do for them, if no industries are developed in the city? To maintain them by partial work or by charity is clearly no permanent solution of the problem.

THE ECONOMIC AND DEVELOPMENT COMMISSION

I have discussed with the Economic and Development Commission the problem before them, and they agreed that the only solution is Farm Colonies for soldiers with here and there Soldiers' Homes as centres. It appears essential that some happily chosen spot be selected with ample land for such Homes. Doubtless special industries will be developed in keeping with the ability of different wounded soldiers. We know that teaching the blind is possible, while maimed men can do something suited to their special disability.

But we have only touched the fringe of the problem. The balance of men are still to be found homes. Suitable land can be selected, purchased and sub-divided. General farming, supplying the crops required to produce milk, hogs and poultry, will utilize the major portion, while smaller plots will be provided which may become the homes of the workers at gardening and fruit growing.

France has for years adopted in Algeria and Tunis a system by which natives and French and Italian immigrants are located, the terms being arranged to suit the purchaser. Some have large ranches, but most are small farmers. Australia has during the past six years adopted a similar plan by which a small farm for grazing sheep or cattle is sold on a twenty-year purchase scheme, a house being built, a crop put in, the farmer paying not more than 5 per cent of the price down, while a loan for development is given them at not more than 5 per cent interest and sinking fund. A Canadian soldiers' colony might be founded on a similar financial basis. Few will have capital, but all will be receiving pension money, enough to pay for immediate needs. It is probable that the Economic and Development Commission's report will suggest several methods for financing the several types of schemes it may propose.

GOVERNMENT LOANS

Those who are familiar with Western Ontario know that a simple scheme of development was begun over forty years ago by a Kent

County farmer, who, as Minister of Agriculture, gave us the Ontario Drainage Act, under which the Province loaned money to invest for such a scheme as mentioned, first 3 per cent and later 4 per cent interest being charged, principal and interest to be paid off in twenty years. I have little doubt that some Government scheme will be outlined, whereby the Government will provide loans along similar lines for local agricultural development.

FARM COLONIES

With the many districts in different Provinces awaiting development it seems simplest and most practical for local committees to be formed under legislation, selected by Boards of Trade Councils, who will as a patriotic duty undertake the purchase of land at local prices, have the farms sub-divided and erect at first a few cottages for the colonists, grouped so that small centres will be formed for intensive culture, while convenient thereto would be placed dairy stables and barns for use in general farming. We must assume that a public hall will be erected for schools, church, library and entertainment purposes as the Colony grows. The management committee will select a farm foreman, whose knowledge, sympathy, enthusiasm and fitness for management will be known to them through their local experience. Horses and adequate machinery must be purchased. So soon as this is done a dairy can be at once put to work producing. In any dozen men two or three will be found with perhaps knowledge and aptitude for dairy work. Until a crop is raised no great gain will be seen directly; but manure will be produced essential for intense cultivation. The scheme is thus simply launched and a dozen or so soldiers provided for. It is apparent to all that there can be no gamble in the scheme. Local business men will see that the money earns a dollar's worth for every dollar spent. The land will gradually increase in value with cultivation and the houses and barns and property will be security for the money spent. The scheme needs for its success the spirit of local patriotism and the sympathy of every social worker.

SCIENTIFIC ADMINISTRATION NEEDED

Is this more than we can do? We have for two years been devoting our time, labour and money to help to save the Empire by assisting the families of absent soldiers. We shall continue to do this personal work in connection with the returned soldiers and families so long as it is demanded; but we must realize that our charity must be administered scientifically, otherwise it will become hurtful rather than beneficial. We are learning to investigate the causes of social evils and are adopting means to correct them. We investigate defects in our school children, we visit their homes and send district nurses where there is sickness, and teach mothers to care for children. We close slum houses or cause them to be repaired and prevent overcrowding, and in all this work we are educating our own and the public conscience. We practice preventive medicine rather than attempt to cure disease after it has broken out. The death rate from tuberculosis in Ontario fell in the period from 1900 to 1913 by over 50 per cent or saved 1190 lives which, valued at \$1,000 each, means \$1,190,000 in a single year. Thus we at once see that social work of every sort has a direct economic meaning.

It need hardly be pointed out that the care of the health, physical and moral, of the soldiers and their families in every community is our very first consideration and no more patriotic duty can rest upon us. Should they be partly or wholly unemployed and become in any degree objects of our charity, it is clear that they are injured directly in their manhood and independence, while their families will suffer both directly and indirectly. Assume that the families of even 100 unemployed soldiers received \$1.00 per diem of assistance, this would mean \$36,500 per annum or nearly half of what 750 acres at \$100 per acre would cost. Adding \$25,000 more for building, say 50 houses, and as much more for the first year's equipment, we obtain \$125,000. The interest on this permanent investment at 5 per cent would be only \$6,250. It is thus clear that if a city made the investment, it would save \$30,000 as compared with the charity scheme. Moreover, we may assume that the land would produce \$25.00 per acre, so that at least \$18,750 of produce would be added to the wealth of the community and would improve its general trade and prosperity.

Who can estimate the physical, mental and moral benefits to the members of such a soldier's colony? Proper daily employment is the condition of health of every human being. Mothers would have abundant food for their families and children would have wholesome surroundings from childhood. Schools would be there to educate them and social entertainment would be possible. Soldiers who had fought together for our common cause could retain and cultivate their comradeship, could fight over again their battles in reminiscences which would teach their children and the community lessons we cannot afford to forget. A higher type of citizenship would be developed amongst us, since mutual regard would grow up and we would all be better for the higher social consciousness which would be its outcome.

PETER H. BRYCE

CIVIC AND SOCIAL QUESTIONS IN CANADA

HOME PROBLEMS DURING THE WAR

WHY should we concern ourselves with home problems during the war? Why talk of peace and the problems of peace times when there is no peace?

Why indeed—if in doing so we detract from the energy given to prosecute the war? But what is “prosecuting the war”—what does the kind of real and lasting victory involved in the phrase a “successful prosecution of the war” mean? Will it mean military and naval success only, and are there no civic and economic battles to fight with the object of attaining that measure of success which is necessary to compensate us for the sacrifices being made? Is the war not teaching the people at home new lessons in what the Americans call “preparedness”? And are the people at home not ready to do their part in securing the fruits of victory?

PEACE IS CERTAIN—THEN WHY BE UNPREPARED?

Our excuse for not being more adequately prepared for war was that we neither were responsible for it, nor expected it on such a colossal

scale. But we have no such excuse in regard to lack of preparation for peace. We have responsibilities to our returned soldiers, to ourselves and to posterity for making a re-adjustment of our social and economic conditions, for re-organizing our industries on a peace footing, for getting rid of everything we can that tends to waste of our resources or that leads to inefficiency in national and civic affairs, and we know that these problems require the exercise of the greatest amount of intelligence and foresight that we can bring to bear upon them.

In a recent debate in the British House of Lords the following striking words were used by Lord Parker:

"Whatever excuse we may have had for unpreparedness for war we shall surely have no excuse if we are similarly unprepared for peace. The war may have been improbable but peace is certain, however long delayed, and, when peace comes, we shall have to face a situation which, unless it be properly handled, may entail on our posterity evils equal to, or even greater, than those entailed by the war itself."

The answer of the Marquis of Crewe to that address was that there was nothing that was more deserving of careful consideration, and in the same debate Viscount Bryce said that: "If we are to learn a lesson from this war it is the necessity of thinking beforehand and not being taken by surprise."

All this seems common place; and yet there is nothing of which we need to be reminded more, for the very dangers the war has taught us to avoid are those about which we are apt to be most careless, because, in order to avoid them, we have to perform that difficult operation of giving up some fixed mode of thought. We are apt to forget that we have lived a generation in two short years, and that every social and economic problem has taken on a new perspective in that time.

Old ideas of things that passed muster before the war are entirely discredited. Our faith in the integrity of nations, our belief that the clash between the selfishness of individuals and between public and private interests is the only way to get rough justice, our contentment with the conditions which have allowed poverty and deterioration of body and mind to be the product of our social system in a land of plenty, these and many more carefully nourished ideas and feelings have suffered a rude shock. And we have not yet been able to replace them with any constructive ideas. We have not had time, and the problem now is to persuade ourselves that it is worth while to give time. We must explore, investigate, and test the new problems in the new light that has come into our minds.

Two years ago certain European forts were regarded as nearly impregnable against attack. Since then we have had to abandon the old-fashioned forts and get into the trenches; we have had to fall back on individual initiative and enterprise, on the nerve power and physique of the fighting unit, on organisation and inventiveness. So in our social organisation, we must abandon certain fixed ideas of the "practical" man that have appeared impregnable. Individual enterprise and physique, nerve power and character are wanted—rather than mere numbers in population and an illusion of wealth—to compose the structure of the greater Canada of the future. We want these qualities not only in the leaders but also in the rank and file.

We cannot have these things if we hold hard to antiquated notions regarding the license to use the rights of property to the injury of mankind. Property has duties as well as rights. The greatest good to the greatest number is no longer a purely altruistic cry; it is the principle on which alone we can build successfully as a nation.

To properly house the worker, to give him air-space and light, pure water, and efficient means of transportation to his work, is merely exercising enlightened self-interest in the interests of our industries—for labour is the most costly and important factor in production, although it is frequently least considered. Even the people who are well-housed, in a comparative sense, have to bear a greater burden than they ought of the cost of land and improvements. Where the artisan and labourer have a high average standard of comfort it is a tribute to their zeal and thrift rather than the result of the enjoyment of facilities for getting cheap land and of an economical system of planning the areas on which they have built their homes. While a boom lasts, the land speculator takes the cream, and the man who is left to foot the bill for taxes has to be content with the skim milk.

We are going to defeat German militarism—but when? A year later than we should have done it if we had been better prepared, after a greater sacrifice of life and money than would have been necessary if we had been better equipped in advance. To prepare for peace is merely to learn the most outstanding lesson of the war.

ECONOMY NEEDED IN THE RIGHT DIRECTION

There is great necessity for economy. But is not our chief danger that we may economize in the wrong direction? History proves that a people situated like the people of the British Empire to-day are tempted to cut down expenditure on productive public enterprises before they will give up personal luxuries. Our chief competitors after the war will consist of two kinds of nations. On the one hand there is the United States, enjoying the advantage of unlimited capital and vast reservoirs of raw material as its munitions of commercial warfare; on the other, France and Germany, trained to an economy in personal expenditure which will enable them to flood the market with cheap goods. It is our obvious duty to economize in the right things, in the direction of reducing the waste caused by a wrong system of land development, and to spend all we can in building up our productive enterprises and the health of our people, in securing civic efficiency and preparation based on scientific training. In regard to this matter of preparation for peace Mr. Asquith advocates no such course as "wait and see" because the war has taught him the folly of the doctrine of *laissez-faire* in these days of national competition. He says: "Not even our pre-occupation in the endeavour to ensure victory ought to prevent us from taking measures to secure that the problem shall be carefully explored by expert investigation."

LAND DEVELOPMENT AND TOWN PLANNING

The most urgent matter that requires attention is the obtaining of legislation to enable municipalities in Ontario properly and effectively to plan and regulate the use and development of land. The absurdities



A BAD ROOF

Climatic conditions in Canada require that roofs should either have a steep pitch or be flat. The roof shown in this illustration is not steep enough—it is built so as to accommodate snow and ice, causing dampness in the houses and danger to citizens.



By courtesy of Illinois Highway Dept.

A BAD ROAD

When too much land is put into roads the waste of the land is the least objectionable feature. The cost of paving a road of the above character and width is more than the abutting owners can bear even if a considerable part is laid down in boulevard. It would be better to have a good narrow road in preference to this wide one—with its depth of clay in spring and autumn and its unhealthy dust in summer.

of the present system, its ineffectiveness in securing efficiency in industry, healthy environment for all our citizens, and conservation of our resources have already been alluded to in *Conservation of Life*. Town planning is not a panacea for all ills that result from our haphazard land system. The Act prepared by the Commission of Conservation will however, give every local authority power to do what is necessary to lay the foundations of healthy and convenient growth—and it is the duty of all who are interested in any phase of civic improvement to urge the provincial governments to give local authorities that power before it is too late.

No money is available for fine schemes of re-construction at present. Great plans for constructing new diagonal thoroughfares and creating civic centres must be deferred. Anything that involves large public expenditures except what is directly connected with public health and the necessities of industry must be put aside. But there is a task which we should perform without delay, namely, the bringing into operation of the machinery of government to secure the application of sensible regulations and the preparation of a proper plan for the undeveloped areas within and surrounding our cities and towns.

We need to perform that task in order to prevent the recurrence of the irremediable evils which have arisen in the centre of our largest cities. We are being educated daily in the lesson that certain evils connected with the growth of towns can never be effectively remedied when once they have become established, that such partial remedies as can be applied are almost prohibitive in cost, and that it is utter foolishness to go on allowing these evils to be repeated in connection with the development of new areas. The matters required to be dealt with most urgently may be grouped under four heads, namely, convenience for traffic, sanitary and hygienic conditions, amenity, and co-operation.

(1) *Convenience of traffic*—We should design our streets to suit the traffic and not be placed in the position of having to adjust our system of transportation to an unsuitable plan of streets. Our system of transportation should not merely be considered as a means of distribution, but also as a problem which is interlaced with the economic problem of land development. We need to consider the means by which we can secure a satisfactory and equitable apportionment of cost between the cities and the rural districts in regard to main highways and how we can get these main highways of sufficient width without increased taxation. The only way we can accomplish that is to permit narrower streets than 66 feet to be constructed for purely residential purposes. We cannot afford to have a higher average width than 66 feet, and therefore, in order to get the wider streets where we require them for purposes of through traffic, we should permit narrower streets where traffic purposes are a secondary consideration.

(2) *Sanitation*—It is important to have better provision made for getting light and air into all buildings to be erected. To accomplish this economically we should have regulations which will give us more space on building lots and not by means of putting unnecessary land into expensive streets. The question of air space and width of streets should not be considered together but as separate matters. The former should be secured by means of fixing building lines between buildings and by



PORT SUNLIGHT

This is a row of houses in an English Garden Suburb. These are workmen's dwellings let at a rent of from \$5 to \$8 monthly. Well constructed and sanitary houses in a row are better looking and more healthy than badly constructed detached houses. Rows also cost much less and permit of combined heating.

establishing a minimum space at the rear of buildings and not by requiring a certain standard of street width. The percentage of each lot which may be built up should be determined before building takes place and graduated from the centre outwards. We should secure that not more than 75 to 80 per cent of the building lots in business districts should be occupied by buildings, and that not more than 50 to 60 per cent of building lots in residential districts should be similarly occupied. The question of securing a uniform standard of sanitation on adjacent municipal areas is one of great importance. Frequently cities have to take over rural areas on which there has been great sanitary neglect. The result is that they do not care to incorporate such areas until they are compelled to and then they have to incur large expenditure in bringing them up to the proper standard.

Housing conditions require more control during the early periods of land development. It is cheaper and easier to prevent slums being created than to remove them or correct them after they have become established.*

*In the evidence given at the Inquiry into the Dublin revolt it was shown that one of the chief causes that led up to that revolt was the bad housing conditions in which a great part of the inhabitants of Dublin had lived for generations.

(3) *Amenity*—There are certain directions in which it is essential to improve land development in cities in order to secure a minimum standard of public health. Beyond that there are directions in which it is desirable but not so necessary to provide more agreeable surroundings around the homes of the people. What is called "amenity" or agreeableness in connection with the laying out of land comes within this second category. In most countries it has come to be recognized that things which were formerly regarded as merely agreeable or æsthetic are essential for purposes of health. The preservation of natural features, such as river banks and trees, the provision of more play places for the children near to their homes and the application of more science to the laying out of the park system are becoming more and more practical questions, which, in the interests of health and economy, city governments cannot ignore.

(4) *Co-operation*—There is frequently an unfortunate conflict of opinion between adjacent local authorities regarding matters which affect them in common. We need more co-operation between such authorities and also between local councils and owners of real estate.



DEPRECIATION OF PROPERTY BY BAD PLANNING

One of the objects of town planning is to prevent the depreciation of residential property by the erection of factories in juxtaposition to good homes, as in the case shown in the illustration. In a case of this kind in Niagara Falls the erection of a mill next to a small house caused the insurance rates of the house-owner to be increased to the extent of over \$116 per annum, and, although this meant practical confiscation of his property, he had no redress. Liberty has shadow as well as substance and should not be permitted to become license to injure others.

The initiative in such co-operation must come from the authorities themselves, and in practice it is usually found that those who represent the real estate interest are not unwilling to co-operate if they are approached in time. As a matter of practice no class of taxpayer suffers more from haphazard development and a wasteful system of carrying out local improvements than the land-owning class as a whole. When approached individually, real estate owners are often difficult to negotiate with, but are much more reasonable when dealt with together in a comprehensive scheme.

The above four matters give a general idea of what is proposed to be dealt with under a town planning act. As already stated, this is not a time to propose legislation which would encourage local authorities to incur increased expenditure on re-construction schemes, but it is a time above all others to secure powers which will prevent bad development and thus avoid the necessity for re-construction schemes in the future in regard to land which is still unbuilt upon.

PUBLIC HEALTH

The effective regulation of the methods of using and developing land lies at the root of all problems relating to public health. There are, however, many bad conditions already in existence and now being created with which prospective town planning and housing schemes will be powerless to deal. These must be remedied by means of corrective measures effected through the Provincial and Local Boards of Health, which are doing much good work but require to be stimulated to greater activity and more courage by the pressure of public opinion. The infantile death rate is still 40 per cent too high; a death rate of 22 per cent in at least one Canadian city as against 15 per cent in New York is most deplorable from every point of view. There is need for higher standards and more vigilance all round. Sporadic educational work such as clean-up weeks, child welfare exhibitions, etc., are excellent in their way, but constant pressure on the administrative authorities is needed to get results. More facts and statistics relating to existing conditions need to be collected to enable comparisons to be made.

MUNICIPAL GOVERNMENT

The method of local government in Canada does not, on the whole, tend to secure the most efficient administration of municipal affairs and public health. There is need for a better and more uniform method of accounting and auditing public accounts; also for a comparison of standards of construction in regard to roads, water supply, sewerage, etc.—due regard being paid to the varying conditions in the different municipalities.

The matter is of great urgency in view of the great problems affecting municipal life that will arise after the war.

There should be a fully equipped department of municipal affairs formed in every province with skilled advisers and a Minister at its head. The question of the kind of machinery required and the relationship between the province, city or town needs careful study. At present no province has adequate municipal machinery although a few have the beginnings of a provincial department.

In Canada we have to take the public with us in connection with reforms of any kind, and it is important to educate public opinion in regard to any proposals of a novel character, such as are involved in town planning legislation. In this process of education there need to be national, provincial and local organizations. The Civic Improvement League of Canada is a Dominion-wide organization and members of that League will be entitled to receive the literature of the Commission of Conservation dealing with public health and town planning. It is desired to have local branches of the league in every city, town and village, whether in the form of a joint conference of existing civic organisations or in the form of a new league. It is hoped that all the existing organisations which deal with civic matters, including housing or public health, will affiliate with the Dominion body.*

THOMAS ADAMS

*Reports of the two conferences held to form the Civic Improvement League of Canada can be obtained on application to the Commission of Conservation, Ottawa.

COST OF IMPROVED BUILDING LAND FOR HOUSING PURPOSES*

AS the cost paid for building land (improved or unimproved) must, of necessity, influence the ultimate rent paid for the house or houses built thereon, it will be of interest to consider what would be a fair price for land purchased for the purpose of erecting thereon houses for industrial workers.

The following calculations are based upon land 133 feet deep, being 100 feet for depth of lot and 33 feet for road allowance, the latter being one-half the roadway allowance of 66 feet required by the laws of Ontario.

It has been told that this width, for one street, is, under ordinary circumstances, too great (see article pages 17-20, Oct. 19, *Conservation of Life*), and that it would be of more benefit to the public were it permissible (under proper restrictions) to decrease the road allowance for a front road, if another allowance were provided for behind the lot.

Whether the total road allowance be situated in front of the lot, or 23 feet (being half of a front road of 46 feet) be allowed in the front, and 10 feet (being half of a back road of 20 feet) be allowed at the back of the lot, thus arranging for a front and back road allowance, is of small consequence in this discussion.

As the superficial contents of an acre of land varies in the provinces of Canada, for this calculation an acre of 43,650 square feet is used. Each foot of frontage in a building lot 100 feet deep, with 33 feet road allowance, require 133 square feet of land. To this must be added and allowance for cross streets, and for unbuilt upon spaces between the ends of rows of houses, if houses are erected in rows; these spaces are necessary to provide against a possible conflagration. This allowance should not exceed 5 per cent, making a total area of 140 square feet for each foot of frontage, or 311 feet of frontage per acre.

**Editorial note.*—This article is of great interest as showing the great difference between what may be called the "wholesale" and the "retail" value of land. Correspondence, confirming or disputing the facts and figures given by Mr. Simpson, is invited.

The narrowest frontage allowable for houses erected in rows is 14 feet, or 22 houses per acre. Such narrow houses, however, are not recommended in this climate where a frontage of 18 feet or 20 feet is the least that should be allowed. At 20 feet there would be $15\frac{1}{2}$ houses per acre.

Good quality farm land, properly cleared, fenced and surface drained, but without buildings, should not be worth more than \$100 per acre in Canada, so that the land value of a house occupying 14 feet frontage of unimproved but of good quality farm land is worth \$4.55 per house, and for 20 feet frontage \$6.38 per house.

The value of a building lot of 40 feet frontage of unimproved land is less than \$13.

To justify such a lot being sold at from \$250 to \$600 it is necessary that modern improvements be made thereon. In Canada such improvements are not usually made at the cost of the vendors, but, if the purchasers are to build houses with sanitary surroundings, these absolutely necessary improvements are either made and paid for by the purchasers, or by the municipal corporation, in which latter case the municipality bears the cost in whole or in part.

The improvements necessary to convert farm land into improved building lots, and their cost, are as follows:

	Per lot of 40 feet frontage	Per acre
Surveying, subdividing and registration.....	\$ 5.00	\$ 38.75
<i>Roadway:—</i>		
$\frac{1}{2}$ of 36 feet or 18 feet x 40 feet — 720 square feet at 20c	144.00	1,116.00
1 curb for 40 feet.....	60.00	465.00
1 5-foot sidewalk for 40 feet.....		
<i>Sewers and surface drainage:—</i>		
40 feet sewer at \$1.50.....	\$60.00	
40 feet surface drainage at.....	5.00	
Proportion of main sewer.....	20.00	
	85.00	658.75
<i>Water and fire protection:—</i>		
40 feet at \$1.00 (no allowance for main pipes or pumps)	40.00	310.00
<i>Lighting:—</i>		
Poles, transmission line and arc lamps for street lighting.....	10.00	77.50
	\$344.00	\$2,666.00

The above costs are the lowest usually secured, but local conditions may cause very wide variations.

SUMMARY

Based on a building lot of 40 feet frontage:—

First cost, based on a high price of agricultural land.....	\$13
Cost, after allowing for cost of subdividing.....	18
Price demanded by real estate speculators.....	\$250 to 600
Cost of improvements necessary to ensure sanitary surroundings.....	340 to 500
Total cost of improved land based on real estate speculators' prices....	600 to 1,100
Making an annual rental for land above at 6 per cent.....	36 to 66
If houses built in a row the annual saving is.....	18 to 33

LOUIS SIMPSON

HOUSING CONDITIONS IN BERLIN (GERMANY)

THE example of Germany in the matter of town planning and in efficiency in municipal government has been frequently quoted as one to be studied and followed. American writers have been particularly laudatory of German cities in comparison with British cities, their enthusiasm for the former being no doubt due to the ostentatious and showy character of the main thoroughfares. But the veneer of grandeur which is given to cities like Berlin by the wide and much decorated boulevards and parkways covers up defects in housing conditions which are probably as bad as any in Europe and much worse than anything in London or other British cities. Official regulations control the sky-line of the buildings but do not ensure healthy homes and official regulations keep the children cleaner looking than in British cities but do not prevent them having a greater death rate from tuberculosis and a much larger proportion of such ailments as rickets. Town planning may be regarded as good, in its most important aspect, in so far as it raises the standard of public health or gives better housing conditions, and as bad in proportion as the reverse is the case. Judged by that standard, German town planning is a failure.

In 1910, the writer paid a visit to Germany and studied the housing conditions of Berlin. This article contains the facts and views then set down in a memorandum and is, therefore, in no way biased by subsequent events.

Like most German towns Berlin is a city of high tenements, in which the rich, in certain districts, and the poor in others, are housed closely together in flats. The tenements are four to six and more storeys in height, with fronts overlooking comparatively wide streets and with backs so closely surrounded or wedged in with other buildings as to render them for the most part almost impenetrable to the sun and inaccessible to currents of fresh air.

To repeat the census figures quoted in the British Board of Trade report of 1907—in 1900, of every 1,000 houses in Berlin and 23 immediate suburbs, 58 had 1 storey, 92 had 2 storeys, 215 had 4 storeys, 466 had 5 storeys, 71 had 6 storeys and 4 had 7 storeys.

In Berlin proper 539 per 1,000 had 5 storeys and 99 had 6 or 7 storeys. These tenements are built for the most part overlooking quadrangular courtyards.

In some German towns there is evidence of a tendency on the part of the well-to-do to spread themselves more into the suburbs and live in small detached villas, but there is not much evidence of this in Berlin. Apart from the large expensive villas erected in the Grönwald, suburban development round the outer fringes of Berlin seems, for the most part, to take the same crowded form as in the central districts. Indeed, in some suburbs, the percentage of dwellings forming a part of high tenement buildings is greater than in Berlin proper; for instance, in the Report of the Board of Trade it is pointed out that in Schöneberg the number of 5 storey houses is 657 per 1,000 as against 539 in Berlin.

In general there seems to be an absence of regard for ventilation and much less attention is given to this than in England. Nor is there the same demand for privacy. The back windows of houses and other pre-

mises overlook each other in an obtrusive way which would not be tolerated in England. The recourse of the inhabitants to open-air café life during the day and evening in the wide streets may to some extent counteract the unhealthy effects of such conditions. But the fact that the conditions are unhealthy and have a most serious effect on child life appears to be generally admitted by those who have studied the question.

Prof. Eberstadt of Berlin University, in an interview with the writer, expressed himself as convinced of the superior healthfulness of English conditions, notwithstanding all that is being done in German towns, at great expense and with admirable foresight, in planning streets and controlling development. He regards the dirty children of English streets as healthier in all respects than the clean but rickety children of the Berlin courtyards.

PRUSSIAN TOWN PLANNING LAW

Prof. Eberstadt foresees very great difficulty in getting any improvement in regard to overcrowding in Berlin. The whole tendency of the law and administration seems to be based on the assumption that the tenement system is inevitable. The Prussian Act of 1875 has for its chief objects the regulation of building lines, the improvement of the frontage of buildings and the widening of streets, so as to make the tenement system as healthy as it can be, and provides the basis for local acts and by-laws. Little or no attention seems to be given to the question of air space or ventilation, or to the appearance of the backs of houses.

WHY TENEMENT BUILDINGS ARE ENCOURAGED

The law encourages costly streets with the result that the frontage land is made too expensive for the erection of other than tenement buildings. Pride in town planning leads in the same direction. Wide tree-planted streets are only practical where the building sites fronting upon them can produce a large return, and this is only possible with closely concentrated building. Architecturally, German town planning is also largely directed by those who believe in closed-in street effects, and many-storied buildings are considered best for this purpose. The municipality also gains by the present system, since it involves less length of road, shorter lengths of drains and pipes, and greater concentration for transport and other purposes. Land is mostly owned in small sections, very largely by builders and bodies interested in building schemes. The owners of land in the city are seldom, as in England, owners of suburban and rural estates. Their interest seems generally to be concentrated in the city, and their wealth is employed to swell the value of the urban sites. The whole system and the interests created by it are opposed to encouraging the people to own their own houses and are largely responsible for the absence of home life which is strikingly evident in Continental cities. Thus centralisation has become a strongly marked feature of the German city, supported by numerous vested interests and by the administrative bodies.

DO THE GERMANS PREFER THE FLAT TO THE COTTAGE?

It has been suggested that, apart from the many interests which are dependent on the existing system, the people in general prefer the flat to the detached cottage and garden, even if the latter were a practical alternative. But the evidence of a strong desire for growing flowers and cultivating allotments on the part of the working classes rather supports the contrary view. Large areas of allotments are laid out all round the city and men travel long distances and pay high rents (amounting up to \$50* per acre) for their little patches of garden in the suburbs. Many streets of working-class houses have almost unbroken rows of flowers and creepers along their balconies from one end of the street to the other. There is plenty of evidence of a fondness for gardening and flowers which has little opportunity of being gratified in the closely crowded tenement.

Compared with the few who get the benefit of the front balconies there must be very many more who have to live in flats overlooking gloomy back courts and alleys where flowers have little chance of receiving sufficient air and sunshine to enable them to grow.

Among the blocks of tenements which I inspected there were two which are typical and which illustrate the housing of different periods. One showed the method of 1872 and the other of quite recent date.

A SAMPLE BLOCK OF DWELLINGS, 1872

Meyers Hof, Acker Strasse—The block of flats which goes under this name was erected in 1872. It consists of about 250 tenements in seven blocks, now occupied by about 900 people and formerly occupied by about 2,000. The reduction in the number is due to the closing of the basement dwellings, the conversion of some of the houses into small factories and warehouses, and partly to reduction of the number in each dwelling. There are six blocks so arranged that only one of the blocks faces on the street, all the others being situated parallel with the front block at distances of 36 feet from each other.

Six blocks of Meyers Hof are of 5 storeys and a semi-basement. There is a common W.C. and a common entrance from the staircase to every group of four tenements.

Most families occupy what is technically known as one room, but this consists of a room and small kitchen. This "but and ben" arrangement represents the average working-class home in Berlin. In the one inspected there were beds in both the room and the kitchen. The rent of one room and kitchen is about \$5 per month for the smaller houses in the courts rising to \$6.25 in the front block facing the street.

A MODERN BLOCK OF DWELLINGS

Schönhäuser Allee—This is a typical block of modern dwellings occupied by well-to-do citizens or small craftsmen. The names and some of the occupations of the tenants were printed on the entrance porch. They comprised jewellers, music teachers, and others, including skilled artisans who traded in their small dwellings. The sanitary conveniences were better, the degree of improvement being very well represented by

there being a W.C. to each two tenements instead of one to each four as in Meyers Hof. As each room and kitchen is used for sleeping and the facilities for ventilation and privacy are so meagre the arrangement cannot be good either for health or morals. The rents are from \$5.25 to \$6.25 per month for 2 rooms and \$8 to \$10 for 3 rooms. One tenement inspected was rented at \$8 for three rooms, ranging from 8 by 10 feet to 12 by 12 feet, and each contained beds. Another at \$6.25 per month contained 2 rooms about 14 feet by 9 feet and 10 feet by 8 feet.

All the rooms are of good height, the minimum allowed by the by-laws being 9 feet.

COMPARISON BETWEEN LONDON AND BERLIN

In a diagram inspected at a Town Planning Exhibition in Berlin, the fact was illustrated that about 42 per cent of the people of Berlin lived in one room as against about 6 per cent in Copenhagen. One room in these two towns means a room and a kitchen. In London the percentage of dwellings with one room as shown on the diagram referred to, was only about $7\frac{1}{2}$, but this room does not include the extra kitchen compartment, although in many cases it will probably include a small scullery. It is therefore difficult to get a proper comparison.

The fact remains that 42 per cent of Berlin's population live in tenements of one room and a kitchen and another 33 per cent in two rooms and a kitchen leaving only 25 per cent living in three rooms or more as against a percentage of 61 living in four rooms or more in London.

These two examples are representative of the average housing conditions of Berlin, and it would seem that the wide tree-planted streets of the city are only made economically possible by crowding barrack dwellings on their frontages and in courtyards behind in order that the cost can be divided over the largest possible number of dwellings.

RELATION OF STREETS TO BUILDINGS

The question of the cost of street construction and its relation to the class of buildings erected and the healthy character of the homes of the people is one of vital importance. In Canada there is a tendency to encourage thinly scattered development and unnecessary wide streets outside of the main thoroughfares—a tendency diametrically opposite to that in Berlin and productive of a different category of evils.

Scattered building and wide streets mean that the amount of pavement or boulevard to construct or maintain, and the length of sewers and mains of all kinds is relatively greater than in closer forms of development producing a relatively higher cost per house for local improvements. This relatively higher cost is accompanied by a smaller assessable value per acre which necessarily results from less concentrated building and therefore, the tendency to spread houses over wide areas causes financial loss, both direct and indirect.

It is clear therefore that the construction of wide streets as main thoroughfares must be accompanied by some corresponding modification in the cost of the secondary streets required for purely residential purposes, so that housing conditions will not suffer. To a large extent this may be effected by judicious planning with the object of grading the

width and importance of streets according to their character, and the number and type of dwellings which these streets are intended to serve.

Canadian and German conditions present two extremes, both of which require careful consideration, but it requires no argument to show that the German conditions, in spite of the showy character of the city streets, are much less healthy, and, what is almost of more importance, are incapable of being altered without serious financial loss. Land in Berlin is much dearer than in London or in most Canadian cities.

In the suburbs of Berlin land for building purposes brings from \$60,000 to \$80,000 per acre as compared with \$5,000 to \$10,000 in the nearer London and Ottawa suburbs.

BY-LAWS

Prof. Eberstadt is of opinion that the By-laws of Berlin tend to encourage the block tenement system. In a communication received by the writer he makes the following statement on the subject:

"It should be said that the predominance of the high-storied tenement system in Germany is of recent date. Even in Berlin, up to 1861, 60 per cent of all houses contained only 1 to 10 tenements; the percentage of this class has come down to 29 per cent in 1905. The rapid change in the housing system of Germany is attributed to defective measures in town planning, regulation of by-laws and over-capitalisation of land, these three influences joining in effect to raise the price of land. There is a strong movement against this evolution, backed by a few municipalities free from speculating influence, such as Ulm, and especially by the great employers of Western Germany, as Krupp, Hamel and the large Companies of Westphalia.

"The Berlin by-laws regulate the percentage of space to be covered by buildings, the height of buildings generally and the building materials to be employed or prohibited, the thickness of wall, methods of construction, etc., in different districts. The prescriptions have been developed to a regular scheme and to a complex system of rules almost as difficult for the builder to know as to evade. After 1870, as doubtful elements entered the building trade, regulation became necessary, and the authorities, to stop short all defects in building, laid down rules to ensure durability and sanitation. These rules were made absolute and general, they encouraged the erection of the high-storied buildings and are said to have made it almost impossible to erect a cheap building of the lighter cottage construction.

"For the next period of the development of by-laws, distinctions were introduced between the different districts of the towns, viz: central district, town extension district, factory district, detached houses and villas district, with numerous sub-distinctions. The by-laws of Frankfurt, Cologne, Düsseldorf, and Munich are conspicuous for working out distinctions up to 15 classifications. The effect—taking for granted that certain improvements have been arrived at—is on the whole not satisfactory. The power of framing the by-laws in some towns is vested with government authorities, and in others is trusted to the municipal bodies under government control.

"The new school of town-planners has for one of its objects the simplification of the by-laws. It proposes that by-laws should be made to distinguish fundamentally between the high-storied building and the cottage and give special rules for both."

Apart from the Unter den Linden and a few of the main thoroughfares, and many isolated architectural features of interest there is little to see in Berlin which can be taken as an example to follow and in regard to housing conditions there is much that can be taken as an example to avoid.

CIVIS.

PROGRESS OF CIVIC IMPROVEMENT IN CANADA

Nova Scotia—The Halifax Civic Improvement League is one of the most active propagandist bodies in Canada. Its executive is wisely directed and enjoys the advantage of having considerable influence with the legislative and municipal authorities. It does not neglect such work as promoting cleaning-up, garden improvement, and other practical forms of securing the "city beautiful" by means of individual action, but, on the other hand, it does not permit these things so to absorb its energies that it is unable to find time for the even more important work of promoting legislative and administrative action to deal with the causes of bad social conditions. Nova Scotia leads the provinces of Canada in its housing and town planning legislation, and the work of the league has greatly helped in placing the province in that position. Now that the necessary legal powers have been obtained to enable some effective reform to be achieved, the league is directing its attention to the practical application of these powers. Town Planning Boards are being formed in the different cities and towns and a scheme is being promoted to erect a model village as an object lesson on housing reform. A Housing Act was passed in May to facilitate the raising of capital for a housing scheme.

The first steps have been taken to secure the preparation of a town planning scheme for Greater Halifax.

At the annual meeting of the Nova Scotia Union of Municipalities, to be held in August next, it is intended to arrange for a full discussion of the question of the desirability of setting up a Department of Municipal Affairs for the province. This is the next urgent need in the matter of legislation in Nova Scotia.

New Brunswick—The preparation of the town planning scheme for Greater St. John is proceeding somewhat slowly owing to the conditions created by the war. Following a recent municipal election, which changed the *personnel* of the City Commission, from which a proportion of members of the Town Planning Commission are selected, the latter Commission has been reconstituted. Mayor Hayes takes the place of Ex-Mayor Frink and Mr. J. H. Burditt has been appointed chairman.

Prince Edward Island—An influential commission has been appointed to take up questions affecting the future development of the province. A conference is to be held at Charlottetown in the early part of August, when various civic problems will be discussed.

Quebec—The need for housing accommodation in Sherbrooke has caused the Board of Trade of that city to take up the question of forming



HALIFAX OCEAN TERMINALS

The new Halifax Ocean terminals are in an advanced state of construction and the first basin of the new harbour appears likely to be ready for use this year. Halifax is sure to have a great future and the question of preparing a town planning scheme before the city grows larger is regarded as of great importance.

a housing company under the Provincial Act to encourage the provision of dwellings for the people. There is reason to believe that a scheme will be launched to provide additional dwellings in the form of cottages with gardens in one of the suburbs of the city.

At different times there have been proposals for creating a garden suburb near Montreal. One of the difficulties has been to obtain a suitable site at a reasonable price, suburban land around Montreal being notoriously "boosted" in value and hard to acquire. This difficulty is being lessened by the depression in real estate values and there appears to be a prospect of getting a large housing scheme started on an estate of over 1,000 acres. The matter is being investigated by the Town Planning Adviser of the Commission of Conservation.

The presentation of a town planning bill to the Legislature has been deferred till next session.

The annual meeting of the Dominion Good Roads Association was held at Montreal in March. A special report of this meeting has been published by the *Municipal Journal*.

Ontario—Progress in town planning in Ontario is slow, owing to the absence of suitable legislation, and keen disappointment is felt in many parts of the province that the Government was not able to introduce a Town Planning Bill at the last sitting of the Legislature. There is no province in which there is more urgent need for legislation and none in which public opinion has shown itself so strongly in favour of it. It is hoped that something will be done to meet the public demand when Parliament resumes its sittings, but meanwhile several important schemes have had to be deferred.

THE EXAMPLE OF RENFREW

Real estate development is very active at Renfrew and several new sub-divisions were placed on the market in April and May. The city council has taken the advice of the Town Planning Branch of the Commission of Conservation in regard to all the sub-divisions. The result has been that all the real estate operators agreed to every proposal made for improving their plans and for linking them up in a satisfactory manner with the general plan of the town. Main arterial roads 100 feet in width were obtained where needed for purposes of traffic thoroughfares, sites for public buildings and recreation have been reserved without cost to the tax-payers, and it has been agreed that a wooded ravine which intersects one of the properties shall be handed over by the owner to the town. All this does not mean that the owners of real estate in Renfrew are philanthropic; on the contrary they are acting frankly in their own interest in thus adapting their plans to the requirements of the Town Council. But their self-interest is of an enlightened character; they are merely responsive to the argument that their interests and the general interests of the community are in harmony. The Renfrew case proves that the blame for bad land development rests in the final analysis with the local authorities. Without any expert guidance or knowledge of their own requirements, councils are usually unable to make constructive suggestions to owners when plans are submitted. Perhaps, to give themselves some sort of satisfaction that they are looking after the public

interest, or to prevent the repetition of some evil that has previously come to their notice, they impose conditions which cost the owners of land a good deal without giving the public any corresponding advantage. What is most exacting and costly to the real estate owner is not necessarily best for the public; indeed so much are their interests in common that unnecessary loss to the one is loss to the other. Real estate development will proceed on satisfactory lines in proportion as a local authority has, first, adequate powers under a town planning act and, second, the expert guidance necessary to enable it to put forward constructive suggestions in lieu of destructive criticism.

One unfortunate weakness in the Renfrew scheme is that both the council and the owners alike have, by reason of a provincial by-law, to face the great and wasteful burden of making all the streets, even the subsidiary side streets, not less than 66 feet wide, although to accommodate traffic some are to be made 100 feet wide. The result is to waste large areas of valuable land that might be used for gardening, to increase the extent of surface for accumulating insanitary dust, to cause ultimately the spending of hundreds of thousands of dollars in making unnecessary pavements or boulevards, and too lengthy connections from sewers and water and other mains.

One indirect effect is to cause money to be stinted on sanitary arrangements in the home in order to pay for streets that are not needed.

At a time like this when economy is so important, it cannot be too strongly urged that the passing of a Town Planning Act to combat this absurdly expensive system in Ontario should not be further deferred.

Manitoba—The Town Planning Bill introduced into the Legislative Assembly of Manitoba passed its third reading in April last. Although without the compulsory clauses of the Nova Scotia Act, it is an excellent measure and will pave the way for a better system of land development in the province.

Saskatchewan—A well drafted Town Planning Bill was introduced into the Saskatchewan Assembly in February last by the Hon. Geo. Langley, Minister of Municipal Affairs. The bill passed its first reading but, for reasons connected with other questions of a local character, had to be held over for another year.

British Columbia—The question of civic improvement organisation in the cities of British Columbia is being taken up by the Town Planning Branch of the Commission of Conservation. Conferences are to be held in July. When the political situation is more settled it is expected that a Town Planning Bill will be brought forward for consideration of Parliament.

TOWN PLANNING AND ARTERIAL ROADS IN GREATER LONDON

THE second joint conference of representatives of 137 local authorities, having jurisdiction over about 1,000 square miles of territory, comprising Greater London and its immediate environs, met at the Guildhall, Westminster, on Friday, May 19, 1916.

The Right Hon. W. Hayes Fisher, parliamentary secretary of the Local Government Board, was present, and Alderman W. Regester, chairman of the Middlesex County Council, occupied the chair. Reports were presented from six sectional districts, into which Greater London had been divided, and these reports were adopted.

The following resolutions were passed by the conference:—

I.—“That, in view of the vital importance of securing the harmonious development of Greater London by carrying into effect carefully considered schemes for the construction of new arterial roads, and, more especially, in view of the opportunity, which will be afforded by the construction of such roads, for the profitable employment of surplus labour in any period of unemployment which may arise after the war, this conference, in submitting to the Prime Minister and the President of the Local Government Board the conclusions of the sectional conferences, desires respectfully to make the following suggestions:—

(a) That all practicable steps should immediately be taken to induce local authorities to secure the reservation of the necessary land for such roads, by the exercise of their powers under the Housing, Town Planning, etc., Act, 1909.

(b) That, in order to encourage and aid local authorities in thus exercising their town planning powers—thereby securing that the projected roads shall be provided at a minimum of cost—the Government should, by means of co-operation between the various departments of state and the county authorities concerned, arrange that local authorities preparing town planning schemes for their respective areas, and including in these schemes the projected arterial roads, shall be given a guarantee that a considerable portion of the cost shall be borne by a central authority.*

II.—That, having regard, not merely to the large amount of time and trouble that has been expended in the consideration and selection of suitable routes for arterial roads in Greater London, but to the extreme urgency of preserving the opportunity for creating the arterial roads which have been found by these conferences to be necessary, and to the important part these traffic avenues will play in the future development and growth of the Metropolis.

This conference is desirous of recording its opinion that it is imperative that steps should be immediately taken through the Local Government Board or other Authority to secure the routes of such new or improved thoroughfares as are set forth in the important traffic proposals contained in the “Report of the Conference on Arterial Roads in Greater London.”

III.—That the Prime Minister and the President of the Local Government Board be asked to receive a deputation to present the report summarising the conclusions of the six sectional conferences, the reports of the sectional conferences, and the resolutions passed at this second main conference. And that the members forming the sub-committees of the sectional conferences be and hereby are appointed a committee to arrange the details of the deputation.

*This means a national authority.

*"New times demands new measures and new men;
The world advances and in time outgrows
The laws that in our father's day were best;
And doubtless, after us, some purer scheme
Will be shaped out by wiser men than we,
Made wiser by the steady growth of truth."*

—J. Russell Lowell.

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THE PURCHASE OF LAND FOR BUILDING PURPOSES

A PROBLEM THAT NEEDS INVESTIGATION IN THE PUBLIC INTEREST

HUNDREDS of thousands of Canadian citizens have bought land, either for speculation or use, during the past ten years. Millions of dollars of capital have been tied up in this form of investment, a great part consisting of hard-earned savings of comparatively poor people. Probably few of those who have used their capital in this way had the knowledge and experience necessary to enable them to form an estimate of the nature of their investment. Now that values have fallen, and heavy taxes have to be paid on vacant lots out of capital derived from sources other than these lots (in other words, out of the rewards of industry), thousands of owners are finding that it is better for them to sacrifice the whole of their investment rather than to continue to pay taxes. This is causing, in the first place, a serious loss to numerous investors; in the second place, financial difficulties to cities and districts in which there are a large number of vacant lots; in the third place, a large wastage of local improvements made to serve unproductive land; and, in the fourth place, the withholding of large suburban areas from agricultural use.

Probably most of those who have derived profit from the sub-division of Canadian lands are the original speculators, many of whom have left the districts where they made their gains and some of whom have taken the capital they have extracted from the pockets of Canadian citizens into other lands, leaving Canada so much the poorer for their presence. Unfortunately, also, many of these speculators are Canadian citizens, who are at heart good people, but who, by this form of gambling, have supported a system which has done serious wrong to the community.

Is it not time to make some investigation into the methods that have been pursued and the problems that have been created by real estate gambling as distinct from proper and legitimate real estate speculation? We will return to a consideration of these methods and problems later, and in the present article content ourselves with some general considerations regarding land values and land purchase to which public attention needs to be directed.

HIGH LAND VALUES ARE A TAX ON THE COMMUNITY AND NOT A FORM OF WEALTH

Whatever difference of opinion may exist as to the proposals of Henry George to concentrate taxation on land, there can be no dispute

regarding his dictum that "Increase of land values does not represent increase in the common wealth, for what landowners gain in higher prices the tenants or purchasers who pay them must lose" (*Progress and Poverty*, Chap. II). Therefore, if land values are increased in a city by speculation and not by expenditure on improvements, that increase is equivalent to an increased tax on the residents. It does not form an increase of common wealth. Let us assume that land values in a certain city, apart from improvements, have been increased from \$10,000,000 to \$30,000,000 in ten years, and that during that period \$4,000,000 was expended by the city council in improvements that indirectly added \$5,000,000 to the land values. Let us also assume that the tax rate in that city had been a fixed one of 2 per cent during that period. The position would then be as follows:—

	First Year.	Tenth Year
Valuation of land, apart from improvements.....	\$10,000,000	\$30,000,000
Increment of value indirectly due to expenditure of \$4,000,000 on improvements.....		\$ 5,000,000
Increment of value due to speculation..		\$15,000,000
Amount of tax at 2 per cent.....	\$200,000	\$600,000

Without speculation, the normal increase of land values in this case should be from \$10,000,000 to \$15,000,000 in 10 years—but owing to speculation, the increase is to \$30,000,000. The result of this is that the community has to bear the burden of an annual ground rent of, say, 7 per cent on \$15,000,000, *i. e.*, \$1,050,000 more than if the land values had not been boosted by speculation. Put in another way, the city has raised the cost of using its land against itself to the extent of 100 per cent.*

Moreover, speculation has the result of increasing municipal taxation. To have profitable speculation in suburban land, it is essential to sub-divide much larger areas than are necessary for immediate use. In a city of 100,000 inhabitants, more than 20,000 lots may be put on the market in a "boom" period. The conversion of perhaps 1,500 or more acres into sub-divisions imposes an increased responsibility on the municipality to provide water, light, sewers, pavements, etc.—in whole or part—at a much greater cost than is necessary when land development takes place under normal conditions. The scattered nature of the

*In one city in Canada having less than 100,000 inhabitants the land values have more than doubled in five years. In the three years from 1910 to 1913 they increased from about 20 millions to about 48½ millions. In the same period less than 3 millions were expended on local improvement works. On the most favourable basis, and allowing for an increase of acreage in 1911, it may be taken that this city doubled its land assessment values in these three years on a purely speculative basis. Instead, however, of adding to its wealth by \$20,000,000 in that period, what it did was to confirm the values of the speculators which resulted in doubling the rent of the land, to be paid by the citizens, for its use for productive purposes. The estimated increase of population in these three years was only about 14,000 so that the land values without improvements increased at the rate of \$2,000 per head of the new population. This aspect of the question will be dealt with in a later article.

development which is the result of unregulated speculative methods enormously increases the cost of local government. In some cities probably from 20 to 25 per cent of the taxes are due to unnecessary expenditure incurred in connection with the development of land which is not really needed for building purposes. It is of course, true that the high speculative value helps to keep the percentage of the tax rate lower, but, instead of this being an advantage, it is a disadvantage, since it blinds the citizen to the facts regarding the cost of city government. Cities in which the tax rate has shown no increase may yet double their per capita tax by increase in the assessed value, so that each citizen has to pay twice as much. It is one of the serious results of the present system of valuation that city authorities have a direct interest in maintaining high land values, thereby taxing the citizens twice over, and making it difficult for them to know what city government is costing them.

Many people have a delusion to the effect that when the residents of a city are themselves the owners of the land there can be no burden in having high land values. It is assumed that what the residents, in such a case, lose in higher taxes, they gain in increased property values. But that can only be true if these high property values are immediately realizable, *i. e.*, if they represent the "sacrificial" or "mortgagable" value of the property, and if there is an immediate demand for the land for purposes of profitable use at these values. If they can only be realized by waiting 5, 10, 20 or more years, another element of a serious character, namely, compound interest on the investment, has to be taken into account.

After all, it matters little whether the majority are owners or not, for the burden of the interest on the capital invested or borrowed in the one case is as great as the rental in the other. Indeed in some cities at the present time, the owners have a greater burden to bear as a result of high land values than the tenants, for, while the former have to pay seven and eight per cent on the amount of their mortgages, or have to credit their own capital account with that rate of interest, the latter can get improved property at a rent showing a net return to the owner of from 2 to 4 per cent. In such circumstances the "magic" of ownership may become the "madness" of ownership.

In an economic sense there is "rent," even if the owner and the user be the same person. "When land is purchased, the payment which is made for the ownership, or right to perpetual use, is rent commuted or capitalized." If we purchase a lot for \$1,000 and start to use it at once to its full value, and if our money is worth seven per cent to us if invested in some other direction, then the rent of the lot might be put at \$70 per annum, on the assumption that we will be able to get the \$1,000 back when we want to sell. If as a result of a land "boom" the value of that lot is increased to \$2,000, the rental value increases to \$140, but two other elements enter in. The first is that the assessed value has to be increased, and, therefore, the lot has to bear higher taxation; the second is that the recovery of the \$2,000 is much less certain than the recovery of the \$1,000 when the time comes to sell the lot. It would, therefore, be reasonable to say that in such a case the rental computed on a speculative value of \$2,000 should be, say, ten per cent as against seven per cent on

the smaller value to cover the greater uncertainty of the investment. Land values produced by speculation, by impairing the security of land for investment and by adding to the tax of the area used for a particular purpose, not only increase rental value relatively but also actually. If there is any advantage at all in being owner or tenant where recurrent land booms take place, it is probably with the tenant. At any rate the bad effect of high land values are the same, whether the majority of the citizens are owners or tenants.

REALIZABLE AND PROSPECTIVE LAND VALUES

Advice is frequently being given to owners of lots in the last two years something to the following effect: "Your land is not now worth the price you paid for it, but if you hold it till better times come you may realize the same price or get a profit." Now the sooner that owners realize that the value of land is its *present* value and nothing more, the better it will be for them and the country. If a man bought a lot three years ago for \$500, and he can only get \$100 today for the same lot, that is its value. The hopeful real estate operator will not admit that, for he will argue that when better times come that lot will bring \$500 or more. But is the purchaser not equally alive to the prospective value as well as the seller? When the former offers the \$100, he is taking that prospective value into account and investing on the strength of it. The faith of the buyer must be placed alongside the faith of the seller to ascertain the present value and the former is more likely to be correct in his estimate. Real estate owners who hold land and refuse to accept present prices do so from a mixture of motives among which not the least influential is the unwillingness to recognize their loss until forced to do so. Yet, whatever their motive for holding it, the fact has to be faced that, while there are people with funds available for investment, the true value of land at a given time is the value it will bring in the open market at that time and not some other time.

When purchasing land for any purpose, regard should be paid to the above fact. If the purchase is for some purpose of immediate use, and there is a limited selection, a high price may have to be paid, but if "prospective" value (that is an expected increase due to something outside the use to which the land can be immediately put) has to be allowed for, care should be taken to discount that value by the loss of interest upon it while waiting for its realization.

Let us take an instance. A purchaser wants a site for a house. For that purpose he should not, in an average case, expend more on the site and local improvements than 25 per cent of the total amount to be spent on the house, street improvements and land. Say he works out the transaction as follows:—

House	\$2,400
Capital cost of local improvements, etc.	300
Site	300
	<hr/>
	\$3,000

In this case the site alone costs him one tenth of the whole investment—a satisfactory proportion. In buying the site, however, he esti-

mates or is informed, that in ten years the street railway will pass the property, and it is then likely to be worth at least \$700. If he is sure that this will be so he may be prepared to give something for the prospect of getting \$400 profit by selling his house for conversion into a store. Will he give the \$400? Surely not. To begin with, he will have to take into account the chance of something else happening to depreciate his property, such as the erection of a planing mill on the adjoining lot, which might increase his insurance to such an extent as to lower the value of his whole improvements by more than the whole value of the lot. On the most liberal basis he would cut 25 per cent off the \$400 for possible contingencies, thus reducing the speculative value he is likely to receive in 10 years to \$300. Next, he has to calculate what is the present value of \$300 if realized in 10 years. The present value of \$100 realized in 10 years at 7 per cent is \$50.83, so that a fair sum for the prospect of getting \$300 of added value in 10 years would be \$150. (See table C appended.) If the prospect is likely to be deferred to 20 years, the present value of \$300 will be \$75.

As a matter of fact, if he were to analyze the whole thing carefully he would find that the chances of increment were completely offset by the chances of decrement, and that, in an average case, a site is worth what it can be economically used for when it is purchased.

The factor of compound interest on land investment requires to be more carefully explained than it has been hitherto to those who purchase lands for the purpose of speculation or to hold it up for future use. Money in Canada is worth from 6 to 8 per cent for safe investment. No financial corporation or trust company will lend money on a large percentage of the value of land even if the purchaser intends to improve it, although they may lend on a large percentage of the improvements plus land at from 6 to 8 per cent. If we buy a lot at \$1,000 for a home, but do not build at once, we may be able to borrow half of that amount at 8 per cent, but generally speaking we could not borrow the other half at even 10 per cent. It follows that our investment of one half is costing us at least equal to 10 per cent. In this article, however, 7 per cent is taken as the interest due to the capital invested, although it might be reasonable to use a higher rate and thus strengthen the arguments used.

CALCULATIONS OF GAINS OR LOSSES

Three tables are given at the end of this article to assist purchasers, vendors, and holders of land in making calculations.

Table "A" will be found of interest to those who have bought land or contemplate doing so. Claims regarding large profits on land purchases are often misleading, because the factor of compound interest is ignored. Frequently one hears of people accepting the same price as they paid for a lot after holding it five or more years and feeling satisfied with the result. They are "glad to have escaped without loss, except in regard to the amount they have paid for taxes." As a matter of fact they have lost much more than the taxes. Let us assume that they spent \$1,000 for a lot in 1910 and sold it in 1915 for the same amount, meanwhile paying \$100 in taxes and other expenses. The loss of interest for five years at 7 per cent is the difference between \$1,000 and \$1,402 (Table "A"), viz., \$402. The total loss in taxes and interest is thus \$502,

or over 50 per cent of the capital invested. Where land is purchased in lots, and city taxes have to be paid upon it, the purchaser will usually have to double its value every five of six years that he holds it without use, in order to ascertain its cost to him.* Those who have indulged in land transactions should make proper calculations regarding their investments with the assistance of these tables in order to ascertain what they have gained or lost. When a real estate operator offers a lot which he claims will double itself in value in a few years, all he is doing is to assure the purchaser he will get his money back. Against the possibility that he may get a profit there is the more than balancing possibility that he may make a loss.

Table "B" shows how annual sums, such as taxes, accumulate in a given term of years, at 6 per cent. When we pay so much a year in taxes for a number of years our total payments and interest cannot be calculated from table "A", but only from table "B." For instance, if we pay \$50 per year for 10 years our total outlay—including interest at 6 per cent—is \$659, being \$500 principal and \$159 interest. When we are holding land, the interest on the principal is accumulating, but so also is compound interest on the annual amount of the taxes.

From table "C" we can estimate the amount we should pay for some definite increase in the value of land likely to take place and for which we are prepared to pay. For instance if we know a lot will increase in value by \$1,000 in ten years and wish to pay the present value for that \$1,000 at 6 per cent or 7 per cent—it is \$558 or \$508 respectively. On the other hand, if we have a lot in our possession and can sell it at \$500

*At the time of writing a claim has just been settled reducing the assessed valuation of a lot in Queen street, Ottawa, from \$700 to \$600 per foot frontage. The owner stated that she was willing to accept an offer of \$600 and probably this is its present value. In 1912 land in Queen street brought more than \$1,000 per foot frontage, actual sales taking place in excess of that figure. Taking a lot with 50 feet frontage it is interesting to make a comparative statement showing the position of the owner of such a lot in 1912 and 1916 respectively and inclusive.

1912	1916
Value of 50 feet frontage at \$1,000 per foot.....	Value of 50 feet frontage at equivalent to selling value in 1912 plus interest at 7 per cent.....
\$50,000	\$65,500
	Taxes paid with compound interest added (2% on \$700 per ft.)....
	3,062
	Value on owner's books.....
	\$68,562
	Realizable value in 1916
	30,000
	Loss.....
	\$38,562
Put another way her transaction might be stated backwards from 1916 as follows:—	
Realizable value in 1916.....	\$30,000
Less Taxes, interest and expenses, say.....	3,750
Net return.....	\$26,250 or \$525 per foot

As the realizable value of \$100 due at the end of 1916 was \$76.29 in 1912 (Table "C") the value of \$525 in 1916 is \$400.5 in 1912. Thus the foot frontage in 1912 which was valued at \$1,000 and assessed at \$700 was worth about \$400. The addition of \$698 in the second case is to cover contingencies and legal expenses not taken into account in the first case.

now, but rather than face a loss we desire to hold on, we might wish to calculate how much we must get in five years' time to yield us a profit. This example may be expressed as follows:—

Present market value of lot.....	\$500
Taxes at \$7.50 per annum if held for five years (Table "B") based on \$350 assessed value and 6 per cent compound interest.....	42
Compound interest at 7 per cent on \$500 for 5 years.....	201
	<hr/>
	\$743
Profit and contingencies.....	100
	<hr/>
	\$843

According to this example unless we are fairly certain to get \$843 in 5 years' time, or a proportionately smaller figure in a shorter period, we should sell at \$500 now. The amount included in an estimate for profit should always be fairly liberal in such cases—say, 20 per cent of the original investment. The \$500 is certain while the \$843 is an estimate of what we expect to get. Moreover, there is the good chance that we might get over 7 per cent on the \$500 in some form of investment as secure as that provided by the building lot.

THOMAS ADAMS.

INTEREST TABLES

"Table A"—The amount of a capital sum of \$100 accumulating at compound interest at 6 per cent and 7 per cent for a term of years.

YEARS.	6 PER CENT	7 PER CENT	YEARS.	6 PER CENT	7 PER CENT
1.....	106·0	107·0	13.....	213·2	240·9
2.....	112·3	114·4	14.....	226·0	257·8
3.....	119·1	122·5	15.....	239·6	275·9
4.....	126·2	131·0	16.....	254·0	295·2
5.....	133·8	140·2	17.....	269·2	315·8
6.....	141·8	150·0	18.....	285·4	337·9
7.....	150·3	160·5	19.....	302·5	361·6
8.....	159·3	171·8	20.....	320·7	386·9
9.....	168·9	183·8	21.....	339·9	414·0
10.....	179·0	196·7	22.....	360·3	443·0
11.....	189·8	210·4	23.....	381·9	474·0
12.....	201·2	225·2	24.....	404·8	507·2

Examples.—(a) A piece of land purchased in 1911 at \$200 must produce \$280·4 in 1916 to repay capital and compound interest plus whatever is necessary to repay taxes if the land has not produced revenue during the 5 years.

- (b) The same lot in (a) bought at \$200, if held for 10 years, must produce \$393.40, to repay principal and interest and without profit. At 7 per cent, money doubles itself in about $10\frac{1}{4}$ years.
- (c) In about $16\frac{1}{4}$ years a given sum of money is trebled at 7 per cent.
- (d) In $20\frac{1}{4}$ years, the accumulated interest quadruples the original sum. In about $23\frac{1}{2}$ years the amount is increased five times.

"Table B"—The amount of \$1 and \$100 per annum accumulating at compound interest for terms of years at 6 per cent.

YEARS	\$1 AT 6 PER CENT	\$100 AT 6 PER CENT	YEARS	\$1 AT 6 PER CENT	\$100 AT 6 PER CENT
1.....	\$1·	\$100·00	13.....	\$18·88	\$1,888·20
2.....	2·06	206·00	14.....	21·01	2,101·50
3.....	3·18	318·40	15.....	23·27	2,327·60
4.....	4·37	437·50	16.....	25·67	2,567·30
5.....	5·63	563·80	17.....	28·21	2,821·30
6.....	6·97	697·60	18.....	30·90	3,090·60
7.....	8·39	839·40	19.....	33·76	3,376·00
8.....	9·89	989·70	20.....	36·78	3,678·60
9.....	11·49	1,149·10	21.....	39·99	3,999·30
10.....	13·18	1,318·10	22.....	43·39	4,339·20
11.....	14·97	1,497·20	23.....	46·99	4,699·60
12.....	16·87	1,687·00	24.....	50·81	5,081·60

Example.—If we pay \$100 per annum in taxes, or otherwise, on a piece of land for ten years and desire to recover not only the principal but also interest at 6 per cent on that amount when we sell—the sum to be recovered would be \$1,318.10.

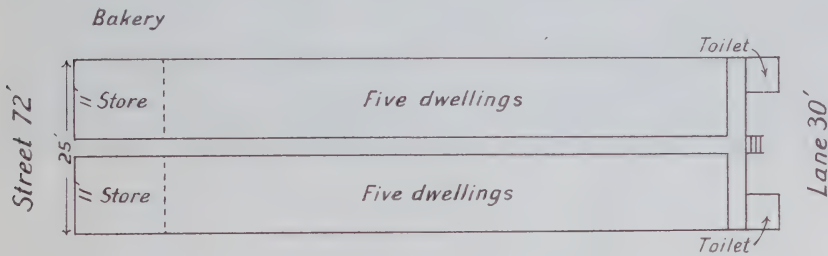
"Table C"—The present value of a capital sum of \$100 payable at the end of a given number of years. Interest at 6 per cent and 7 per cent.

YEARS	6 PER CENT	7 PER CENT	YEARS	6 PER CENT	7 PER CENT
1.....	94·34	93·46	13.....	46·88	41·50
2.....	89·00	87·34	14.....	44·23	38·78
3.....	83·96	81·63	15.....	41·73	36·24
4.....	79·21	76·29	16.....	39·36	33·87
5.....	74·73	71·30	17.....	37·14	31·66
6.....	70·50	66·63	18.....	35·03	29·59
7.....	66·51	62·27	19.....	33·05	27·65
8.....	62·74	58·20	20.....	31·18	25·84
9.....	59·19	54·39	21.....	29·42	24·15
10.....	55·84	50·83	22.....	27·75	22·57
11.....	52·68	47·51	23.....	26·18	21·09
12.....	49·70	44·40	24.....	24·70	19·71

NO ROOM TO LIVE IN CANADA?

THERE is such a thing as doing more harm than good in making a plan of a city. If it is merely a paper plan without any definite scheme to control sanitary conditions and prevent gambling in real estate it may have that result. We have an example of this in a city for which a plan was drawn but for which no proper town-planning scheme was prepared. The accompanying illustrations show what can happen under such conditions, and indeed under any conditions when a town planning scheme is not prepared.

Here is a rough plan of a lot, 25 feet wide with a street in front, a lane at the rear and a 3 foot alley down its centre.



This is bad overcrowding with one storey wooden buildings. There can be no excuse for such conditions in a Canadian city. In the plan prepared for the town in which this lot is situated care was taken to



"Central Building" occupies a lot 25 feet wide in a small western city. As will be seen from the plan of the lot there are two stores facing the street and five houses facing either side of the alley which runs down the middle. Adjoining is a bakery.



Rear view of lot facing back lane. Note ten dwellings (five on each side) facing 3 foot alley and two insanitary toilets on extreme right and left.

provide for wide streets and back lanes. These have to be constructed by the community and owners at great cost, partly with the object of securing air space for the buildings. Owing, however, to the absence of building and sanitary regulations and a town planning scheme embodying such regulations, this object is entirely defeated and much of the expenditure incurred to secure it is wasted. Under a real town planning scheme no houses would be permitted to be erected which did not face a street and which had not proper sanitary conditions and air space. On the site under review there are ten dwellings, none of which face a street, served by two insanitary toilets. The dwellings are so arranged as to exclude light and air to a maximum extent in one storey buildings. Fronting on the street and forming a blanket to the dwellings are two stores and adjoining the group is a bakery. The accompanying views show the street frontage and the view of the 3 foot alley from the back lane.

Such conditions as are here illustrated would not be permitted in most European countries and it is regrettable that they should be permitted in Canada where there should be as much room to live under proper sanitary conditions as in the congested parts of Europe.

CAN MONEY BE SAVED BY TOWN PLANNING ?

THE wrong impression has been given to many people that the preparation of a plan for a city or a town is waste of money and effort because of the probable cost of executing the plan. It never seems to occur to such people that a plan may be prepared for the purpose of reducing municipal expenditure. The object of a plan is to ascertain in advance what are the best things on which to spend the money that is available, not to find out new things on which to spend more

money than is spent without a plan. *In Canada at present all town planning should be directed to secure greater economy in municipal administration.*

Comparison is sometimes made between the planning of a factory and the planning of a city—it being argued that as the one is necessary so is the other. But the city is such a complex thing and so many of its parts and functions are inter-related and linked up with one another that there is much stronger reason for planning the city than planning a factory or a house. Yet every sane person who builds a factory or a house has a plan prepared for it, while most cities are allowed to grow without plan. There is one comparison between the planning of the factory and the city that is worth noting. The first thing a man does who proposes to build a factory is to decide what amount he has to spend and what facilities and space he requires. He next computes how best to fit in his requirements with his finances. If he is a wise man he calculates on the requirements of the future as well as of the present, and sees that he has a site large enough for reasonable extension in the succeeding 20 or 25 years. He then engages architectural and engineering advice to prepare plans. The architect or engineer is told what money is available, and what provision has to be made. The latter then applies his skill to prepare a set of plans showing how the provision can be made for both immediate and future requirements; next he submits estimates of costs and, where necessary, advice regarding any increased area of site required for future expansion. If the sum immediately available for building is \$100,000 the preliminary plan and scheme might cost from a few hundred to one or two thousand dollars—but it might have the effect of showing the manufacturer that he should only spend \$80,000 instead of \$100,000. The object of the plan being to enable the building to be properly constructed according to the best design, it may as likely show that the manufacturer can accomplish what he wants at less than his rough estimate. Of course it may equally have the opposite effect. But the point is that the preparation of a plan for a factory or a city does not in itself increase or lessen costs; it merely provides the necessary material and drawings to enable the cost, and the proper channels of expenditure, to be estimated. It is like preparing a city budget at the beginning of a financial year—the budget instead of increasing expenditure enables the city authority to “cut its coat according to its cloth,” and may help in securing reductions in expenditure.

If a man were to build a house and pay an architect $2\frac{1}{2}$ per cent on the cost to prepare plans and estimates and another $2\frac{1}{2}$ per cent to supervise construction, the architect does not by the act of preparing the plans involve the owner in greater cost than $2\frac{1}{2}$ per cent of the estimated cost and for that he may save 10 per cent on the owners' own estimates in the building if he is a good architect. On the other hand, if no plans were prepared and the work proceeded piecemeal, the owner may spend twice as much for the same house before he completed it.

In many of our cities and towns we are spending money on the wrong things, we are wasting money on non-essentials; and we are creating the beginnings of bad conditions for future generations. *By the preparation of a town planning scheme at comparatively small cost we would*



View of sunk building lot in Prince Rupert, B. C., showing expensive street construction and suggesting difficulties in erecting buildings, drainage, etc. Whatever the undulations of the site the preparation of a town planning scheme would have enabled building development to take place on more rational lines than are illustrated in this view.



View of a street cut through solid rock in Prince Rupert, B. C. To utilize the lots facing this street the rock has to be removed at great expense from the building site. Owing to the difficult problems of development created by the character of the site the people of Prince Rupert should re-consider their plan and obtain government assistance to prepare a proper town planning scheme which would effect economies in connection with future development.



CONGESTION OF SUB-SURFACE CONDITIONS

This tangle of a New York street shows the absence of town planning under the street. Owing to the want of planning ahead, and to the crowding of high buildings on the land extreme congestion takes place under the streets. As the *Municipal Journal* states "it costs two to ten times as much to build and maintain a new conduit in such a street as in one where there is a wise arrangement." Plan your conduit system and avoid high buildings. Photo—courtesy of C. N. Green, New York Public Service Commission.

save much money and wasted effort, and we could avoid mistakes which are caused by want of planning.

These financial advantages are in addition to the social advantages produced by town planning — the improved living conditions, the better facilities for transportation, etc., the higher standards of public health and citizenship, and the greater equality of opportunity. It is sometimes said that the financial side of these problems is unimportant; that the human side is all we need concern ourselves about. That is just as unsound a view as the opposite which puts all the emphasis on the financial side. The best methods of solving social problems are those which have a sound economic basis. If our method of feeding the hungry results in creating paupers may not the remedy be as bad as the disease? If our method of city planning destroys individual initiative and helps the waster at the expense of the hard working citizen, will it

not be unsound? *The great value of town planning, however, is that while it does not directly solve social problems connected with the land it is a necessary basis for any proper solution—it is the only method by which they can be solved at reasonable cost to the community on the one hand or without injury to legitimate rights in property on the other hand.*

But no town planning scheme, and still less no paper plan unaccompanied by a proper scheme of regulations, can be effective or save money unless it deals with the control of building development and sanitary conditions. Indeed a wasteful and irrational system of development may result from having a street plan of a town, if land speculation is permitted and there is no regulation regarding sizes of lot and density and character of buildings to be erected. Much of the expensive development seen at Prince Rupert, B.C., would not have had to be incurred if the plan had not been prepared to suit the requirements of the land speculators. A proper town planning scheme for Prince Rupert would have enabled the citizens and the landowners to have saved large sums of money in development, but it would not have made it so easy to create a "boom" in land values.

HOUSING, TOWN PLANNING AND CIVIC IMPROVEMENT IN CANADA

CURRENT PROGRESS

DURING the months of July and August visits have been paid on behalf of the Town Planning Branch of the Commission of Conservation to all the provinces of the Dominion, and conferences have been held in many of the large cities.

In every province there is growing interest in the subject of civic improvement and town planning, a fact which is most encouraging when it is considered how much the attention of most people is directed to matters immediately connected with the prosecution of the war.

The following notes indicate the recent advances made in the nine provinces, and the organized steps which are being taken to promote town planning and conservation of human resources:

BRITISH COLUMBIA

Vancouver and District—A branch of the Civic Improvement League of Canada was formed in Vancouver following a conference convened by the City Planning Association and Board of Trade of Vancouver.

Delegates were in attendance at the conference representing the Vancouver City Council, the Women's Council and Parks Board, the Inter-municipal Industries Committee, the Chamber of Mines, the Society of Architects, the Trades and Labour Council, the Women's Forum, the Vancouver Merchants' Exchange, the Vancouver Exhibition Association, the Manufacturers' Association, the Institute of Chartered Accountants, the Medical Association, the Art Historical and Scientific Association, the Y. M. C. A., the Y.W.C.A., the Medical Officers of Health, the American Club, the Rotary Club, the Royal Sanitary Institute, the Agricultural Institute,—all of Vancouver. There were also representatives from the municipalities of New Westminster, Burnaby, Point Grey, South Vancouver, North Vancouver and West Vancouver.

Mr. J. J. Banfield, of the City Planning Association, occupied the chair, and an address on civic improvement was delivered by the Town Planning Adviser of the

Commission of Conservation. After an interesting discussion, a resolution was adopted to form a branch of the Civic Improvement League of Canada for Vancouver and district.

The following committee was appointed to draft a constitution and form plans for work: Mr. J. J. Banfield, Mr. J. Fyfe-Smith, Mr. Nicol Thompson, Reeve Winram (North Vancouver), Mayor Grey (New Westminster) and Ald. McIntosh (Vancouver). Mr. W. E. Payne, who had been responsible for the excellent arrangements made for the conference, was appointed secretary.

Victoria—A well attended meeting, convened by the Board of Trade of Victoria, B. C., was held on July 13th. The meeting was hurriedly arranged and had not been convened specially for the purpose of dealing with the formation of a Civic Improvement League. So much interest was shown in the subject by prominent citizens, however, that it seems certain that a branch of the Civic Improvement League will be formed in Victoria in the near future. The British Columbia Legislature will be asked to consider the question of passing a Town Planning Act at its next sitting.

New Westminster—A proposal to form a Civic Improvement League in New Westminster was discussed at a meeting held in the City Hall, New Westminster, on July 12th. The question of forming a local branch of the League, or of uniting with the Vancouver League, was deferred for consideration until after the Vancouver League was formed.

Prince Rupert—There is perhaps no city in Canada that is so much in need of a Civic Improvement League as the new city of Prince Rupert, but no definite steps have yet been taken to form one. The need in Prince Rupert is due to the fact that the city has some specially difficult problems to solve owing to the undulating and rocky nature of its site and the isolated position of the city from other centres of population. This makes it peculiarly desirable that the citizens should train themselves to understand their local problems and to take a watchful interest in the development of the city.

ALBERTA

Edmonton—On July 19th a representative body of citizens of Edmonton met in the City Hall to discuss the desirability of forming a local branch of the Civic Improvement League of Canada, and to consider the local application of the Alberta Act relating to Town Planning. Mayor Henry occupied the chair, and after the discussion which followed an address by Mr. Thomas Adams, a resolution was adopted as follows:—

"Whereas, it appears desirable that the city of Edmonton should forthwith take steps to prepare a town planning scheme, under the Alberta Act relating to Town Planning, for the purpose of regulating the use and development of the land comprised in the city area, with proper regard to economy, convenience, good sanitary conditions, and amenity in connection with such development.

"Be it resolved, That the City Council be memorialized to the effect that a Commission of Inquiry be appointed by the council to take the necessary preliminary steps with regard to the preparation of such a scheme and other matters incidental thereto."

It will be seen from the foregoing resolution that the people of Edmonton are anxious to get to work and do something practical. The problems with which the city of Edmonton will have to deal in a town planning scheme are different from those which have to be faced in some eastern cities. In the case of Edmonton and other western cities, town planning schemes, for the present at least, will have to be framed to draw the cities closer together rather than to spread them out wider. Mr. John Burns once used the phrase "Town plan your cities—but spread the people." This was admirable counsel to the congested cities of Europe, but in the western cities of Canada the spreading of the people has been carried so far, as a result of land speculation, that serious evils have resulted; evils which are nearly as injurious to the community as those which are produced by congestion. Town planning legislation which enables local authorities to get rid of the evils of congestion can be adapted to deal with the problems of scattered development.

The following quotation from a leading article in the *Edmonton Journal* indicates what seems to be the settled opinion of many Edmonton citizens, and there is reason to believe that a town planning scheme for the city will be formed in the near future.

Steps will also likely be taken to link up the local movement in Edmonton with a Civic Improvement League for Alberta.

A TOWN PLAN FOR EDMONTON

We have had the question of town planning discussed in Edmonton before, but Mr. Adams' visit should have the effect of giving greater definiteness to our ideas and, what is still more important, should lead to the translating of those ideas into action.

People have been quite reasonably suspicious in the past of large civic improvement schemes because of the expense involved. Desirable though it is to give beauty and dignity to a city, it is a serious mistake to make an outlay for this purpose that is beyond a community's resources.

It was in his warning on this point that Mr. Adams' address last evening was so different from what town-planning enthusiasts have told us in other years. Germany has been held up to us as a model but Mr. Adams made it clear how the elaborate parks and avenues in Berlin have been obtained by piling on a burden of taxation which had forced people to live in two-room apartments.

This is an aspect of the matter which has not been sufficiently considered by the majority of those who have written and spoken on the subject. It is the old story of paying too much for your whistle.

Yet though these limitations should be recognized, there are vast opportunities for making the home town more of a source of pride and bringing it more in keeping with the needs of proper community life. The evils of haphazard growth are apparent everywhere in the older lands and it does seem a shame that these mistakes should be repeated in this new country, where we can build from the ground up.

What is necessary to impress first of all is that the use to which land within the city is put should be regulated to promote the general good of the citizens. Where private objects conflict with the latter they must give way. That is why a town-planning scheme should be worked out and resolutely applied.

The Dominion government, though the Conservation Commission, whose expert our visitor of yesterday is, is prepared to help in every possible way and it is for the city council to take immediate action along these lines. It is much easier to accomplish something at the present moment than it was a few years ago, or than it will be a few years from now, when the city resumes the course of development which has been interrupted by recent events.

Now is the time to see to it that when the new era of growth is entered upon, as it certainly will be entered upon before long, a well-considered and carefully framed plan has been evolved, by which the evils that have hitherto attended expansion may be avoided.

Calgary—A joint meeting of representatives of the City Council and Board of Trade of Calgary was held on July 4th for the purpose of discussing the desirability of action being taken to formulate a town planning scheme for Calgary. Among those present were: Mayor Costello, Commissioner Garden, and President F. M. Black, of the Board of Trade, Mr. J. S. Denis, of the Canadian Pacific Railway, and other prominent citizens.

After discussion it was resolved to recommend the city to proceed at once with preparing a scheme to better regulate the use and development of the lands within the city limits under the Town Planning Act.

In 1913-14 a plan for the improvement and reconstruction of Calgary, was prepared by Messrs. Thomas Mawson and Son, but no scheme was prepared to carry out the plan. Until the provisions of such a scheme are drawn up the details of any architectural plan cannot be properly considered. When Calgary prepares a scheme it will then be in a position to consider how far the suggestions made by Messrs. Mawson can be utilized. Under present circumstances, however, no suggestions are likely to be adopted which involve additional expenditure.

It is proposed to resuscitate the Housing and Town Planning Association of Alberta and broaden its scope as a branch of the Civic Improvement League of Canada.

SASKATCHEWAN

There are active associations and clubs of men and women in Regina, Saskatoon and Swift Current dealing with questions of civic improvement and town planning.

The Swift Current association is particularly active and is making a close study of the development of the town. For the present, however, action in the province is somewhat in a state of suspension until the Town Planning Act, which has already passed the first reading of the Legislature, becomes law.

The Minister of Municipal Affairs for Saskatchewan has prepared a draft Town Planning Act which, if passed into law in its present form, will be one of the best measures in Canada.

MANITOBA

All interest in civic improvement work in Manitoba during the past year has been centred in getting town planning legislation adopted for the province.

In Winnipeg, propaganda work in connection with civic improvement is being carried on by the Winnipeg Citizens' Committee, the Housing and Town Planning Association and the City Planning Commission. The latter is supported by an appropriation from the city and has office accommodation provided in one of the civic departments. There is not likely, however, to be much progress in Manitoba in effective city or town planning until some definite steps are taken to apply the provisions of the new Act.

The time is ripe for a conference of representative citizens of the province to discuss the whole question of civic development and improvement, with special regard to the conditions likely to arise after the war.

ONTARIO

Toronto—Civic improvement in Toronto is well looked after by a group of associations, of which the most active and prominent are the Bureau of Municipal Research, the Civic Guild and the Housing Association. These and other bodies met in joint conference at the invitation of the Commission of Conservation in April last. The conference discussed the desirability of legislation being passed to establish a Department of Municipal Affairs for Ontario and to giving the municipalities power to prepare town planning schemes. It decided to approach the government with a view to procuring an early passage of legislation to deal with these matters. It is proposed to continue the conferences as a sort of federation of all bodies dealing with civic questions in Toronto, and to affiliate this federation with the Dominion Civic Improvement League. Sir Edmund Osler was appointed chairman, and Dr. H. L. Brittain secretary.

Owing to the pressure of other matters, the Ontario Government was unable to take up the question of town planning legislation during the last session, and, in the matter of creating a Department of Municipal affairs, they have declared it as their policy to establish such a department immediately after the war. Such a department, however, is greatly needed for the purpose of dealing with municipal problems created by the war itself and with the adjustment of conditions likely to arise at its close. To defer the matter is to lose one of the best opportunities to organize the province to deal with the readjustment of industrial and social conditions, which will be necessary in the near future. No policy can be effective in securing efficient organization in connection with these conditions, except by means of municipal machinery. For that purpose it is essential that the municipal machinery should be improved, especially with a view to securing more effective co-operation between the province and the municipalities.

The Ontario Municipal Association met in Toronto in August and discussed the question of town planning. A resolution was passed referring the consideration of the draft Act of the Commission of Conservation to the executive of the association.

Ottawa—FEDERAL PLAN.—Since the publication of the report of the Federal Plan Commission no announcement has been made regarding the taking of any steps to put any portion of the plan into effect, but the City Council appear to be keeping the suggestions of the Commission in view, as new developments take place. Having regard to the large expenditure involved in preparing such a plan it will be unfortunate if action is not taken in the near future to prepare a town planning scheme for the purpose of giving effect to many of the excellent suggestions which the plan contains.

Had the British method of preparing a town planning scheme been adopted the plan and scheme to give it effect would have been prepared simultaneously, but the Federal Commission adopted the simpler American method of preparing a plan and making a general report, leaving the detailed scheme and the financial considerations for subsequent consideration. The work still to be done in this direction is as important and as large in extent as that which the Commission has accomplished, and the value

obtained from the plan and report would be commensurate with the activity shown in proceeding with the second stage and preparing an actual town planning scheme. But even the Federal Plan cannot be properly carried out without a provincial town planning Act, so that in Ottawa, as elsewhere, the greatest urgency is in getting legislation.

Any attempt to carry out such a plan by piecemeal methods will produce little or no result beyond what could have been obtained without incurring the expense of preparing the plan. In addition to preparing a scheme for executing the plan, it will be desirable to supplement the work which has been done by the Federal Plan Commission in certain important directions. The suburbs of Ottawa suffer as much as other cities from ragged and scattered development and from the absence of security against depreciation of residential property. One of the most urgent problems in the city is to regulate the new growth round the suburbs, where the beginnings of unhealthy housing conditions are being permitted to be established.

CIVIC IMPROVEMENT—A Civic Improvement League for Ottawa has been formed and has made a very successful beginning with its work. At a meeting of a number of prominent citizens held in the spring a committee was appointed to draw up a constitution and to submit a report to a subsequent meeting. At this subsequent meeting, which was very largely attended, a strong committee was appointed with the Honourable Sydney Fisher as president, and Mr. Ronald Hooper secretary. The constitution of the league is interesting and as it might serve as a model in other cities it is printed elsewhere in this bulletin.

Vice-presidents have been elected for each ward of the city, and an active working organization has been formed.

About twenty local organizations, such as the Playground Association, the Canadian Society of Civil Engineers (Ottawa Branch), the Horticultural Society, the Women's Council and others, are co-operating by securing members and appointing delegates to the League. For instance, the Society of Civil Engineers has sent out a circular to all its members inviting them to join the League. In this circular the society very properly points out that "Engineers more than any others should be anxious to take part in and support the good work of the Civic Improvement League." It is stated that while the work of the organization is not yet completed, there are already sub-committees at work dealing with the collection of data concerning garbage removal and disposal, trimming of trees, the establishment of an industrial farm, etc.

HOUSING CONDITIONS—An investigation has been made into the housing conditions of Ottawa and a report will shortly be published by the Commission of Conservation.

Hamilton—The agencies at work in Hamilton include the Civic Improvement Committee of the Board of Trade and the Town Planning Commission appointed by the City Council.

Last year a successful conference was held at Hamilton, at which representatives of a large number of municipalities in southwestern Ontario were present. The conference was convened by the Board of Trade and resolutions were passed urging the need of legislation to deal with town planning and municipal government. It was decided to hold an annual conference, and a Committee was appointed with Mr. G. E. Main as president, and Mr. T. L. Brown as secretary. The second annual conference will be held in Hamilton on the 2nd and 3rd of October next to discuss the questions of municipal government and finance, town planning, good roads, and after-the-war problems of municipalities. Meanwhile active work is being done in Hamilton in the direction of preparing maps of the city as the basis for a town planning scheme. A map is being prepared to show the existing building development, as distinct from the real estate divisions, and another is being prepared showing the present and proposed railway systems of the city and district.

London—Following a meeting held at London in the spring a Civic Improvement Committee of the Board of Trade is being formed in the city.

Port Arthur—As a result of a conference held at Port Arthur in July a Civic Improvement League has been formed for the city. A strong committee has been appointed, with Mr. T. F. Milne, city clerk, as secretary, and active steps will be taken during the autumn to complete the organization.

Kingston—At meetings held in Kingston the questions of preparing a town planning scheme for the city and forming a Civic Improvement League were discussed, but no definite action has yet been taken.

St. Catharines—It is proposed to hold a conference at St. Catharines in October for the purpose of forming a Civic Improvement League for the city.

St. Thomas—The Horticultural Society of St. Thomas, which is probably the strongest in Ontario, undertakes a large amount of work in connection with civic improvement and has promoted meetings to discuss town planning and other municipal questions.

Windsor—A group of towns which have been formed adjacent to the city of Windsor, comprising Sandwich, Walkerville, Ford, Ojibway and Windsor, have formed a joint commission and have secured statutory powers to enable the commission to carry out a scheme of water supply and sewerage for the five municipalities. An attempt was made to obtain other powers for the commission to deal with, *e. g.*, the park system, but these powers were not granted. This joint action on the part of these municipalities is likely to lead to co-operation in other matters, such as town planning. Although a good deal of activity is being shown in connection with civic work of various kinds in this district, there is need for the formation of a strong league in order to arouse public interest in the urgent civic problems likely to arise in the future, especially in view of the large developments which are likely to take place as a result of the erection of the works of the United States Steel Corporation at Ojibway. As previously reported in this bulletin, the United States Steel Corporation proposes to establish a model city on its own land and it is desirable that the area immediately surrounding the Corporation's site should be developed on satisfactory lines. In other cases where the corporation has built a model city the fact that it has been unable to control the surrounding development just outside of its boundary has largely destroyed the value of what it has done.

Galt, Kitchener, Waterloo and Preston—At a conference held at Galt and Kitchener in the spring of this year a great deal of public interest was shown in town planning and civic improvement. There is an active Town Planning and Civic Improvement Association in Kitchener, but it is desirable that this group of towns should have a combined association and should endeavour to prepare a town planning scheme which would secure the proper development of the part of the Grand River valley in their areas.

Haileybury and New Liskeard—A proposal is under consideration to form a Civic Improvement League for these two towns and Cobalt.

Lindsay—The erection of the new Dominion arsenal at Lindsay has caused a number of citizens to interest themselves in the question of preparing a proper plan for the new developments that are likely to take place within and surrounding the town. The matter is being dealt with by the Town Planning Adviser.

Niagara Falls—Following a conference held in June last a Civic Improvement League is being formed for the town of Niagara Falls.

QUEBEC

The annual congress of the Union of Canadian Municipalities was held at Montreal on the 23rd, 24th and 25th of August, and a number of pressing municipal problems were discussed. A report of the proceedings will be published in the October issue of the *Canadian Municipal Journal*.

The Montreal Civic Improvement League, at its recent annual meeting passed resolutions confirming the action of its committee and executive in affiliating with the Civic Improvement League of Canada, and expressing satisfaction at the formation of the Dominion League.

Outside of Montreal a great deal of interest is being shown in civic improvement and town planning in Quebec, but it has not been practicable up to the present for the Town Planning Branch of the Commission of Conservation to assist in promoting any organization. The time is ripe for some effort to be made in this direction and there will no doubt be important developments in Quebec during the coming winter.

A scheme for erecting houses for the working classes in the city of Sherbrooke has been under consideration.

At the Annual Meeting of the Canadian Public Health Association, held in Quebec in August, a resolution was passed deploring the absence of a rational system of town planning, declaring that the lack of system in the growth of towns was partly the cause

of tuberculosis and infantile mortality, and urging the Quebec Government to pass a Town Planning Act.

Civic Improvement conferences are being arranged to be held in Montreal and Quebec during October.

NEW BRUNSWICK

St. John—The work of preparing a town planning scheme for the city of St. John is proceeding, and investigations are also being made into the housing conditions in the city.

NOVA SCOTIA

The preliminary work in connection with the town planning scheme for the city of Halifax is in course of preparation, and other town planning boards in the province are being formed. Considerable building development is likely to take place in the next few years in Halifax and Dartmouth and the preparation of a town planning scheme for these places is urgent.

The annual meeting of the Nova Scotia Union of Municipalities was held at Halifax on August 25th and 26th. One of the sessions was devoted to discussing the question of establishing a Department of Municipal Affairs in the Province. Following a paper by the Town Planning Adviser of the Commission of Conservation a resolution was passed urging the government to establish a department to deal with municipal affairs. A committee was appointed to study the details of the proposed measure and to interview the Government. Town Planning and good roads were also subjects of discussion.

PRINCE EDWARD ISLAND

The civic problems in Prince Edward Island are different from those in any of the other provinces. Being almost entirely an agricultural province and none of its cities or towns showing any rapid growth at present, the questions to be considered relate to conditions almost entirely rural in character.

The Town Planning Adviser of the Commission of Conservation spent some time in making an inspection of the island in company with the Premier and other members of the Government during the month of August. A report on that visit is being prepared and it is proposed to hold a conference at Charlottetown in October, to discuss the future development of the province.

In the past the principal means of transportation between the mainland and Prince Edward Island has been by steamers running between Point Deschenes and Summerside and Pictou and Charlottetown in the summer. It is now proposed to run an all-the-year-round ferry between Cape Tormontine and Cape Traverse, a distance of only nine miles, and to widen the gauge of the Prince Edward Island railway so as to secure proper through communication for railway traffic. At Carleton Point, where this ferry will connect with the island, a new town is likely to grow up and it is important that steps should be taken to secure that it is properly planned.

For those who desire sea air and surf-bathing, combined with attractive rural country, Prince Edward Island is probably the best holiday resort in North America, and it would be to the general advantage of the eastern part of the Dominion that the facilities for transportation between the island and the mainland should be improved. This improvement, however, is not likely to lead to entirely satisfactory results until the people of the Island themselves take up the question of improving their roads so as to facilitate transportation across the island. The preservation of the beauties of the Island and the improvement of parts of Charlottetown and Summerside by means of town planning schemes is also most desirable in view of the importance of increasing the attractiveness of these places for visitors. Prince Edward Island as a holiday resort as well as productive agricultural territory and a centre for the fishing industry raises some interesting problems of conservation which are ripe for discussion.

CIVIC IMPROVEMENT LEAGUE OF CANADA

WORK OF CENTRAL LEAGUE

OWING to labour difficulties the Report of the Conference of the Civic Improvement League of Canada, which was held in Ottawa in January last, has only recently been published and a copy of it is being mailed with this issue of "Conservation of Life." The delay in the publication of the report has, to some extent, been responsible for the suspension of activity on the part of the Dominion council. Of course, it is not expected that during the summer months any large amount of work could be done apart from the formation of new branches and the building up of the organization. As will be seen from the general report of the progress of civic improvement in Canada (page 86) a great deal has been done in forming new organizations and in strengthening those which have been previously formed. Now that the conference report is issued, steps will immediately be taken to stimulate the activity of the league. It has to be remembered, however, that the main object of the Dominion League is to act as a clearing house and bureau of information for the local branches. Apart from doing so and convening an annual conference, it will not be a function of the league to take up active civic improvement work in any district. In all civic affairs it is important that local action should be encouraged as much as possible and that the national effort should be confined to giving every possible assistance and information to enable the best results to be obtained from that local effort.

DISTRIBUTION OF LITERATURE

In a leading article which appeared in the "Daily Colonist," Victoria, B.C., in July last, it is suggested that more effective means ought to be found whereby the results of the investigations of the Commission of Conservation could be placed in popular form before the public. As a means of accomplishing this end, it is further suggested that the local organizations should be formed in all parts of the country and that the Commission should have prepared for sale to the members of such organizations, at cost, books dealing with town planning and kindred matters. It may be pointed out that one of the main objects in forming the Civic Improvement League has been to secure that the investigations of the town planning branch of the Commission shall be made available through the proper channels and reach those who are interested in civic affairs. The membership of the league is being gradually built up to form a mailing list of great value, comprising all those who are interested in the proper development of towns and in the improvement of social conditions. These members will, it is hoped, look to the central body to give information, submit reports on questions of special difficulty, stimulate local action where needed and generally keep together the threads of the organization throughout the Dominion.

MODEL CONSTITUTION FOR BRANCHES

The following constitution of the Ottawa Civic Improvement League can be taken as a good model for local branches, subject to adaptation to local conditions in different provinces. It is hoped that individual members of the League or others that are interested, will take steps to promote the formation of a branch in their several localities. So far as it could be arranged, the Town Planning Adviser of the Commission of Conservation will attend meetings held for this purpose and, in any event, will be happy to send suggestions and information by letter.

In a circular sent out by the Ottawa League, it is pointed out that the work to be done by the League will cover a wide field. The best forms of municipal government, taxation, finance, town planning, gardening and beautification, public health and social problems may all come within its scope. It is not the purpose of the League to overlap, duplicate or conflict in any way with the work of existing organizations dealing with civic matters, but it is thought the League may help to co-ordinate such work and provide a clearing house for information. With this end in view, the Council has invited the co-operation and advice of all existing organizations interested in civic conditions and to inquire how the league may aid the special objects which each such organization seeks to promote.

CONSTITUTION OF CIVIC IMPROVEMENT LEAGUE OF OTTAWA

- (1) The name shall be the Civic Improvement League of Ottawa.
- (2) The general objects shall be to promote the highest interest of the City of Ottawa; to stimulate the study of the principles and methods of Civic Improvement and development and also to secure a general and effective interest in all affairs pertaining to the welfare of the citizens.
- (3) All residents of Ottawa, or anyone whose employment is in the City of Ottawa, shall be eligible for membership, and each member shall pay an annual subscription of fifty cents.
The subscription for life membership shall be fifteen dollars.
- (4) The management shall be vested in a general council to be elected at the annual general meeting and shall consist of a president, nine* vice-presidents, secretary, treasurer and twenty members. One vice-president and one member shall be chosen for each ward in the city.
- (5) The first Council shall be elected at the first general meeting, and shall prepare by-laws in accordance with this Constitution.
- (6) The Council may select an Executive from amongst its members, to which it may delegate any of its duties.
- (7) The first general meeting shall be held during May, 1916, and annual meetings in March of each year. Other general meetings may be held at such time and in such manner as the by-laws may provide.
- (8) This Constitution may be amended by a two-thirds vote of those present at any general or annual meeting, on one month's notice signed by ten members being duly given in writing to the Secretary, and on two weeks' notice being given by the secretary to the members, such notice being deemed sufficient if advertised in the newspapers once in each of two successive weeks.

DRAFT BY-LAWS

Whereas the Civic Improvement League of Ottawa deems it expedient to enact By-laws for the regulation of its affairs,

Now therefore it is hereby enacted as follows:—

MEETINGS

1. The Annual Meeting of the League shall be held at such place in the City of Ottawa as may be designated in the Notice calling the meeting on the second Tuesday of March in each year for the election of the General Council of the League for the ensuing year and for all other general purposes.
2. Any General Meeting of the League other than the Annual Meeting shall be called at any time by the president on the request of any five members of the League, in writing stating the object of the meeting, who may themselves summon such meeting in case the president fails to act upon their request.
The business to be dealt with at any General Meeting shall be set forth generally in the Notice calling the same. After the disposal thereof other business of which Notice was not given may be dealt with, provided a majority of those present on motion so determine.
3. A Notice of the time and place of holding any Meeting of the League shall be given either by postal cards addressed to each member of the League and to be mailed one week before the date of the meeting or by advertisement in any four newspapers published in the City of Ottawa, of which one shall be French, and such notice shall be deemed sufficient if advertised in such newspapers once in the week immediately preceding the date fixed for such meeting.
4. At any Meeting of the League, the quorum shall be fifteen.
5. At all meetings of the League, questions shall be decided by a majority of those present, of whom the president shall be one who, in case of a tie, shall also have a deciding or casting vote.

Each member of the League whose fees are paid shall be entitled to one vote.

*NOTE—The number of vice-presidents corresponds with the number of wards in the city and each vice-president is recognized as chairman of his ward.

6. The order of business at all meetings shall be:—

- (1) Reading of Minutes;
- (2) Reading of Communications;
- (3) Business of which special notice has been given;
- (4) Reports of sub-committees;
- (5) Unfinished business;
- (6) New business to include at annual meetings the election of a Council for the ensuing year.

THE COUNCIL

7. At all Meetings of the Council the president or in his absence, one of the vice-presidents shall preside. Failing this, any member of the Council may be chosen as chairman for the time being. At Meetings of the Council the quorum shall be five.

8. The president may at any time summon a Meeting of the Council and he must do so at the request of any three members of the Council.

9. Two days' notice of every Council Meeting shall be given to the members thereof by the secretary, by letter, post-card or by telephone, but the non-receipt of a notice, if it is shown to have been given, will not invalidate the proceedings at any Council meeting.

10. The Council may appoint Committees from members of the League, for carrying out any of the objects of the League and any Committee so appointed, shall in the exercise of its Powers conform to any regulations that may be imposed on it by the Council.

11. The Council shall cause true accounts to be kept:—

- (a) Of the property of the League;
- (b) Of the moneys received and expended by the League with full particulars of the same, which accounts shall be audited by an auditor appointed by the Council.
- (c) Of the credits and liabilities of the League.

Such accounts shall be kept at the office of the League, and shall be open to the inspection of Members of the Council at all reasonable times. At the Annual Meeting, the Council shall lay before the League a report of the year's work and a full statement of its affairs, including an itemized account of the dealings of the League during the past year.

12. These by-laws may be amended by a two-thirds vote of those present at any Council Meeting and such amendments shall remain in force till the next general or annual meeting of the League, and if not then confirmed they shall forthwith cease to have any effect.

FIRE WASTE IN CANADIAN CITIES AND TOWNS

WHEN suggestions are made to the effect that more time should be given and more money should be spent in Canada in securing effective regulation of the use and development of land for building purposes, and in enforcing the demand for higher standards of building construction, it is sometimes argued that the taxpayers already have sufficient burdens to bear, without making further additions to them. The inference to be drawn from this argument is that town planning and better building construction would increase administrative costs without effecting any saving to the ratepayers. How absurd this argument is, is illustrated by the great fire waste in the Dominion. A great part of this waste occurs in cities and towns and is due to defective regulation of grouping and construction of buildings.

It is estimated that the annual loss and expense caused by fire in Canada is \$49,688,125 and that the investment in construction and equipment of fire prevention appliances is \$46,975,000. Rates for in-

surance have averaged during the last three years \$1.18 per \$100 insured. The average rate in Sweden, in which there is a great deal of building construction in wood, is 40 cents, in Austria 30 cents, in England 23 cents, in Germany 22 cents, in France 21 cents (est.) and in Spain and Italy 19 cents. The average loss per capita in large cities in Canada in 1914 varied from \$2.20 in Edmonton to \$12.07 in Saskatoon, as against a minimum of \$0.04 in Lancaster and a maximum of \$0.93 in a group of English cities.

It is estimated by an insurance expert that the people of Canada pay \$25,000,000 per annum for fire prevention in excess of a similar population in older countries. This great tax, amounting to about \$3 per head of the population, is paid out of the proceeds of our enterprises, and is a handicap to Canada in its industrial competition with other countries. How enormous it is in each city can be estimated by multiplying the population by three. This is one of the items we are paying for our so-called practical policy of allowing towns to grow up without proper control of their lay-out, and without proper regard to fire risk in connection with the erection of buildings. A comparatively small sum expended in the direction of prevention would secure a great reduction in this loss, for it is a well known fact that a great part of it can be avoided, if only we would apply more foresight in developing land and demand higher standards of building construction.

GOVERNMENT CONSTRUCTION OF HOMES IN NEW ZEALAND

The New Zealand Government has erected during the past nine years 548 homes for workingmen in this Dominion, under the act entitled "Workers' Dwelling Act of 1905," which originally provided that the homes should cost no more than £300 (\$1,460) each, and these were to be placed at the disposal of the workers under a lease of 50 years, with a fixed rental of 5 per cent of the capital value of the dwelling, plus insurance and taxes.

Amendments have been introduced from time to time. The value of the building that might be constructed by the Government has been increased, and the cost of rentals or payments has also been raised, until now the rate of 7 per cent is collected instead of the original 5 per cent. The homes are built to cost as much as £550 (\$2,676), in case of men receiving as much as \$12.16 a week.

During 1915 the Government built 162 workers' homes, and there are now 38 under construction in the Dominion. This is undertaken in the interest of keeping down the cost of rent to the working people, and so far it seems to have been very satisfactory. It has been a real boon to the working class.—*Consul General Alfred A. Winslow, Auckland, in U. S. Commerce Reports.*

BRITISH AND GERMAN TOWN- PLANNING

"The task of town building is an international one, where every nation has to learn and every nation may contribute to our knowledge. I am not over-praising England if I say that the modern system of town building has been created in England. . . . We have had numbers of Englishmen visiting Germany to study our town planning and town building. We might be proud of this tribute paid by our master to what—in town planning—I should still call an apprentice. Therefore, do not call me ungrateful if I allude to a certain inconvenience, a drawback, connected with these most agreeable visits. Our English visitors generally applied to our ruling municipal authorities, the creators of our modern towns. They were received, naturally, with broadest hospitality, and introductory luncheons were given to them. Then they were driven about in carriages and made acquainted with those magnificent, imposing, broad streets with a display of asphalt sufficient to empty half the pits of Italy, and a show of granite to level down the mountains of Sweden, lined all along with huge five-and-six-storied 'tenement barracks.' And the English visitors were full of admiration for this much vaunted street-planning—not town-planning—system.

"And the effect of this? When we town planners and housing reformers, who have to grapple with unheard-of difficulties, said, 'We wish to do away with this system, pernicious for our people; we aim at the English home, the English cottage, the individual house,' the reply was, 'Why, last night, at dinner, your very Englishmen could not find words enough to praise, to admire, this system which you would upset. They said they were going to imitate it.'

"The admiration for this (German) system comes too late; the fashion is over."—Professor Rud. Eberstadt, Berlin, Germany.

CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

CONTENTS.

Series of Articles by Mr. THOMAS ADAMS as follows:—

The Governors General of Canada and Town Planning.

Agricultural and Industrial Colonization.

The Purchase of Land for Building Purposes.

Housing Conditions in Canada.

Food Contamination by Flies.

Report of Civic Improvement Progress.

DECEMBER, 1916

Commission of Conservation
Canada



Conservation of Life

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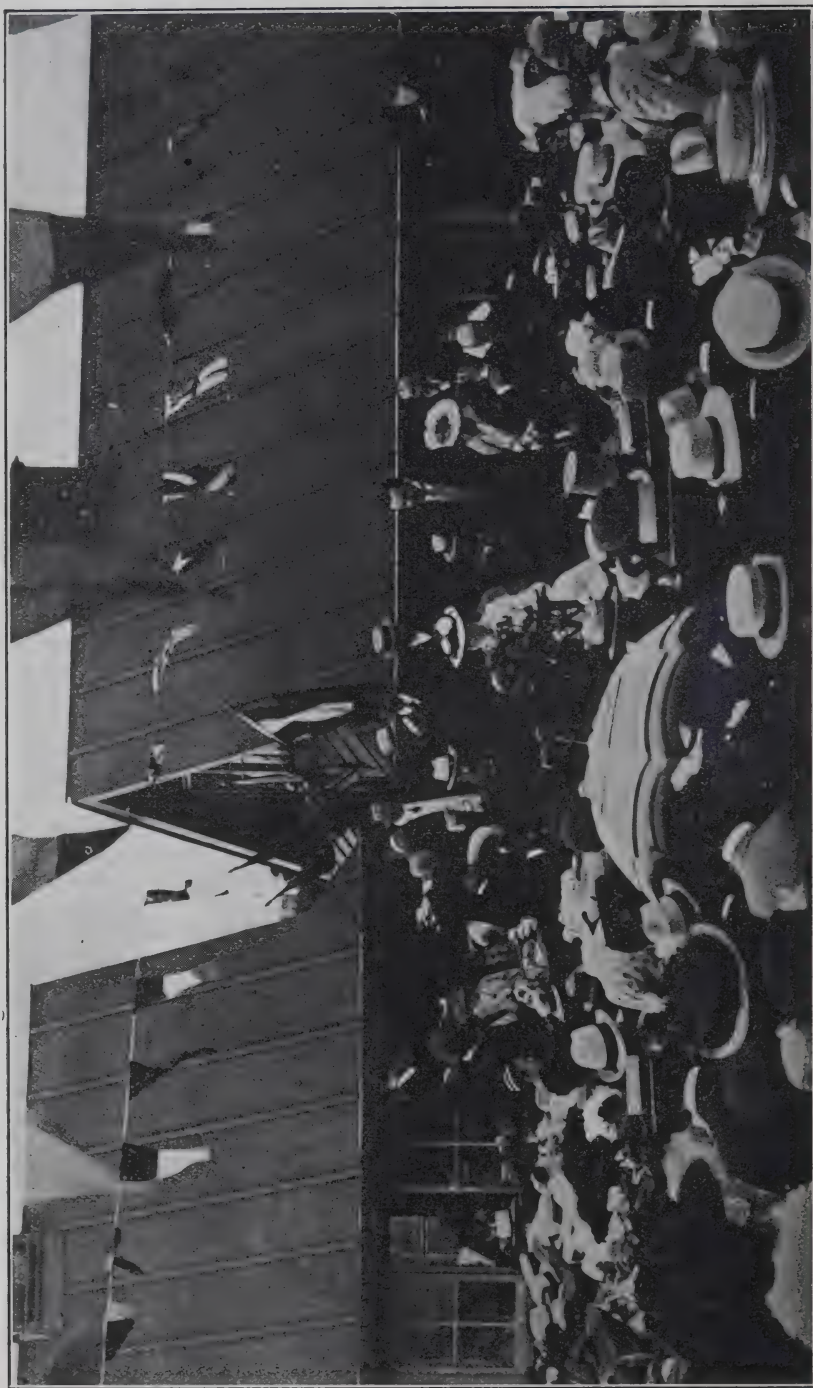
THE GOVERNORS GENERAL OF CANADA AND TOWN PLANNING

CANADA has been peculiarly fortunate in having a succession of Governors General whose family traditions and training have led them to take a deep interest in social welfare and civic improvement. Some notes regarding their association with these movements may be of interest.

The Marquess and Marchioness of Aberdeen have long been ardent advocates of housing reform and town planning and during their regime at Rideau Hall were active promoters of schemes for the betterment of civic conditions.

During the time they were in Ireland they sought by every means in their power to promote housing reform in that country, and particularly in Dublin, by means of town planning schemes. The last visit which I paid to Ireland in 1914 was at their invitation to attend a conference of Irish local authorities and open a discussion on town planning. One of the final acts of the Marquess of Aberdeen before leaving Ireland was to offer a prize of \$3,000 for a plan of Greater Dublin, the chief object of the competition being to obtain suggestions for the improvement of the housing conditions in the Irish capital. The award for the best plan submitted has only recently been made, and the plan is now under consideration of the Dublin authorities. The Marquess was also responsible for the starting of a town planning propaganda in India, by suggesting to Lord Pentland that Professor Patrick Geddes, of Edinburgh, should take his town planning exhibition to that country and give lectures. Unfortunately, the whole of the material for that exhibition was sunk by the Emden in the early stages of the war, but other material was soon collected, and the exhibition has been held in several Indian cities, with remarkable results in stimulating public opinion in favour of town planning. The Marquess and Marchioness are still following the progress of the town planning movement in Ireland, in India and in Canada with keen interest.

When the Right Hon. Earl Grey came to Canada his loss to the town planning and co-operative movements in England was keenly felt. He first became keenly interested in the work of the British Garden Cities and Town Planning Association about 15 years ago. At first he was sceptical of the practicability of the programme put forward by that Association and it was with great difficulty he was persuaded to preside over its first Garden City Conference at Bournville Garden Village in 1901. From that time, however, up to the days following his appointment as Governor General in Canada, he was an active supporter



THE DUKE AND DUCHESS OF DEVONSHIRE

Opening of the Cottage Exhibition at the Garden City, Letchworth, England, 1905.

and was never backward in giving personal service to the movement. One memorable meeting was held in London on June 2nd, 1902. It was the night when the streets of London were packed with crowds cheering the news of the relief of Mafeking and yet every place in the large hall was occupied. In his address from the chair Earl Grey said:—

“It is becoming more and more recognized, year after year, that town life under present slum conditions is absolutely fatal to the development of that physical vigour and energy on the maintenance of which our national life depends. The writing on the wall, which stands out in letters so clear that every one can read it, warns us that unless we can improve the conditions of town life then our happy breed of men will be replaced, in the not distant future, by a puny and stunted race, which will be unable to bear the burden of empire.”

It was in that spirit of enthusiasm in favour of practical reform of our civic conditions as a means of building up the strength of the empire that he sought during his term of office in Canada to arouse interest in improved housing conditions. It will be remembered that one of his acts during his term of office was to bring out to Canada Mr. Henry Vivian to address meetings on the subject of housing improvement throughout the Dominion. On his return to England one of the first things Earl Grey did was to renew his active interest in the town planning movement.

The addresses delivered by His Royal Highness the Duke of Connaught at the Town Planning Conference in Toronto in 1914 and at the Civic Improvement Conference in Ottawa last year showed how keenly interested he was in this subject. In his opening address at Toronto he said:—

“Considering the terrible lessons that are so forcibly impressed upon one by the experiences of older countries it would be nothing short of national disaster if, for want of proper forethought, a similar state of things were permitted to come into existence in Canada, which is essentially a land of wide spaces, where there should be breathing room not only for the present population but for a nation ten times as large . . . You are about to consider questions in which is involved the future happiness of many thousands of your fellow-Canadians. You are going to set your brains to work on problems in which Canada should, and in which I devoutly hope she will, set an example to the world. You have an inspiring, almost an unique, opportunity. I wish you Godspeed in your labours, and I assure you again of the interest and sympathy with which I shall follow your deliberations.”

In his sympathy with town planning His Royal Highness was only following the example of the King of England who, on his own estates in South London, had for some years been making improvements under the expert advice of Mr. S. D. Adshead, town planning professor of London University.

His Grace the Duke of Devonshire comes to Canada with family traditions which are certain to arouse his interest in a movement so keenly supported by his predecessors in office. Town planning has received a great stimulus in England as a result of the forethought and wisdom which has been displayed by the Devonshire family in laying

out towns and villages on their estates. Eastbourne, which was entirely built on one of these estates, is a model residential town of 55,000 inhabitants, with ample provision made for healthy housing conditions, adequate recreation facilities and control of its natural and structural beauty.

In 1905 the late Duke of Devonshire showed his personal interest in the Garden City movement in England when he opened the Cottage Exhibition at Letchworth Garden City. At a time like this, when the building up of the physique and character of the citizens of the Empire in all its parts is of such vital importance, when patriotism demands the exercise of forethought and prescience at home, as well as sacrifices on the field of battle, it is of happy augury that Canada continues to be served by Governors General with such traditions and sympathy in connection with the social welfare of the Empire.

AGRICULTURAL AND INDUSTRIAL COLONIZATION

THE EXAMPLE OF FRANCE

Agriculture is the foundation of manufactures; since the productions of nature are the materials of art.—GIBBON.

DEFECTS OF CANADIAN SYSTEM OF LAND SETTLEMENT

TO keep the farmer on the land requires a stronger tie than mere ownership. He requires the facilities and means to live as well as to exist; the enjoyment of natural social conditions for his wife and family as well as for himself; the satisfaction that the facilities for distributing his products and for utilizing the natural resources of the country are not controlled to the disadvantage of his class. We have relied too much on the magnet of ownership to attract the labouring farmer to the soil of Canada and too little on the more enduring magnets of social amenities and efficient organization.

To keep the farmer on the land when he gets there has become a greater problem than that of first attracting him to the land. Why does he hesitate to go in the first place and find it uncongenial to stay in the second place? There are three outstanding reasons, one, the holding of large areas of the best and most accessible land by speculators; another, the compelling social attractions and ready money of the cities and towns, and, next, the lack of adequate return for his labour because of want of co-operation and of facilities for distribution of his products. Why not face facts and try to bring tracts of land held for speculative purposes into use, try to take part, at least, of the social conditions and ready money of the cities into the rural areas, and simultaneously provide the co-operative and distributive facilities that will give the farmer a larger share in the price paid for his products by the ultimate consumer? This has been done elsewhere—why not in Canada?

We must begin by recognizing that agriculture is the parent of manufacture; that the raw material of the factory comes from the farm and that the sources of physical and mental recuperation of the city come from the rural population. Next, we must recognize that enormous capital expenditure has been incurred in Canada in providing railways, roads and improvements in the older parts of the nine provinces and that, until these parts are more fully used and developed, it is bad economy to spend money in opening up tracts which cannot be successfully settled without further capital expenditure in providing new means of access to these tracts. Having recognized these things, we should devote more attention to opening up the idle lands adjacent to our railways and to our cities for cultivation on the one hand and for establishing small industrial towns in the more isolated rural areas on the other hand. The building up of a system of small manufacturing industries in village centres is a necessary part of a programme of agricultural settlement; necessary not only to provide labour and ready money for the farmer and his family in lean years and slack seasons, but also to provide the social conditions for which they crave and the co-operative facilities they need so much.

More intensive cultivation and greater production nearer to existing manufacturing centres, simultaneous with the encouragement of more manufacturing in the rural areas distant from these centres, will give us a combination of great value in the interests of economic development. It will enable us to eliminate a large portion of the cost of distribution and waste which results from conveying raw materials over the long distances which at present separate the farmer from the manufacturer.

RETURNED SOLDIERS

The problems of the returned soldiers and of immigration after the war cannot be solved in a satisfactory manner unless we first apply more science and intelligence to the problem of land settlement and deal with it on economic lines. It is futile to go on with schemes for placing men on the land without regard to the social and industrial organization which is needed to make land settlement a success. In past times we have seen how such schemes have failed, but are slow to learn from our mistakes. It is so much more pleasant to do the easy thing, and to give the appearance of fulfilling our responsibilities, when all the time we are side-tracking them. Soldiers who want to go on the land should not be placed on isolated farms in territory remote from existing railways and centres of population, until we have first filled up the available territory nearest to these railways and centres; or, alternatively, unless we develop the new territory in such a way as to give the settlers the advantages of accessibility by road and rail and of social conditions which they need to make them prosperous and contented. Otherwise we will only succeed either in deadening their initiative and enterprise or in creating a sickening of heart that will drive them back into the cities. Then there are men who possess artistic skill and technique, or who will not want to go on the land to farm, and for whom some form of industrial occupation is needed, such as village manufacturing would provide.

BRITISH AND CANADIAN CONDITIONS

In Great Britain the mistake which has been made in the past has been that the user of the land has not been sufficiently encouraged to own it; he has lacked security of tenure and scope to make the most of his own improvements. We have drawn large numbers of British farmers and labourers to Canada by offering free homesteads, and this "magic of ownership" has, till recently, persuaded many to migrate to this country who were attracted by getting something which was not available at home. But in course of time the farmer recognizes that ownership is not everything, and that he has only exchanged a condition of one form of servitude for another. With all his shortcomings the British landowner is more or less of a business person, who recognizes that he can only keep his tenants by giving them good roads, social opportunities and cheap money, and by encouraging co-operation, although there cannot be much success with the latter under a system of tenancy. Moreover, the landlord acts as a partner with the farmer in keeping up the productive quality of the soil by requiring proper crop rotation, in getting facilities for cheap transportation, and in obtaining government assistance to keep up a high quality of stock. The Canadian farmer gets ownership, but he loses most of the other advantages which he regarded too cheaply while he had them. To make farm settlement in this country successful we must not only give opportunities to obtain ownership but the facilities and social conditions which go with tenancy in other countries. Thus ownership will become an addition to the attractions which are available in these countries and not, as at present, an alternative. To achieve that we must give up the present slap-dash methods of dumping down people on the soil without proper organization and careful planning.

EXAMPLE OF FRANCE

Some light on the methods which are necessary to achieve the desirable results is thrown on the problem by what has been accomplished in France in uniting ownership of land with the carrying on of petty industries. Petty industries and intensive farming are carried on side by side in the most populous and richest parts of France, and on land less fertile than that of Canada. Referring to the social condition and activities of France, Erik Givskov, to whom I am indebted for much of the information in this article, wrote in the *Contemporary Review*, in 1904, as follows:—"No one can travel through the French villages and hamlets without being struck by the comfort and cleanliness generally prevailing. Almost every house lies half hidden behind a thicket of fruit and rose trees, and behind the flower pots in the large windows, or sitting on the threshold, as the case may be, one sees the whole family in busy activity turning out ribbons, laces, brushes, combs, knives, baskets or whatever may be the special industry of the district." Mr. Givskov rightly adds, "It is man, not land, that produces—draws forth—wealth." But satisfactory social conditions are as essential for production as ownership of the land. In Canada we proclaim to the world how fertile are our fields and how easy it is for the settler to become his own land-

lord, but either through ignorance or indifference we fail to provide the social and business organization which is as essential to secure success as the fertility and ownership of the soil.

But even the combination of good soil, ownership, agreeable social conditions, and the creation of small industries are not sufficient in themselves, as has been proved in parts of Europe where these things are available. These things are the foundation on which to build, but co-operation and modern industrial equipment must be built upon that foundation. Competition of small manufacturing industries with the great factories is difficult, but proper organization and the use of water-power to produce electric energy can do a great deal to overcome that difficulty. There are industries in which constant change of process, individuality and artistic skill count for so much that they can be successfully manipulated on a small scale.

In the part of Northern France devastated by war are areas where successful small industries have been carried on by the peasant population, and that illustrate the extent to which the French peasant prospers by uniting agriculture and manufacture. Between St. Quentin and Cambrai and at Le Cateau, Caudry and Solesmes, to the south of Lille, shawls, curtains and tulle were woven before the war. The work was mostly done in the winter between the seasons suitable for working on the land.

Near Caudry no less than 36,000 people were said to be living on 30,000 acres of land, with the result that fine crops of sugar beet and grain were being produced from poor soil. At Sedan, in the valley of the Moselle, hand-weaving was carried on extensively, and each of 3,500 weavers owned their own house and field; earning from two to three francs per day from weaving. Bolts and nuts were also made by the men and brushes by the women. The intelligence of the peasantry was improved as a result of being engaged in skilled industry, and they enjoyed seeming comfort and prosperity. Round Nancy and Mirecourt, in the Vosges, the women engaged in hand-embroidery and the making of lace and straw hats from imported plait, while the men made stringed instruments.

Pictured as before the war, Amiens, behind the present British lines, is a great centre for the manufacture of parts of umbrellas, shoes, and ironmongery. At Escarbotin, in the northwest of Amiens, a large amount of ironmongery—padlocks, screws, safes, etc.—is made. Although this town and its environs contain only about 1,200 people, it is the centre of a population of over 40,000, distributed in small villages, and living in comfortable houses situated in large productive orchards. Each family has its cow and pig. Even here, however, is found the drift towards the towns, for there is that lack of co-operation and modern methods of manufacture which is necessary to make these small industries successful.

Between Amiens and Paris the towns of Beauvais, Mouy and Noailles are centres of a great brush-making industry, employing about 15,000 persons. Some of the peasants live on their holdings and work in factories in the town—one factory employs 3,000 workers and has an annual output valued at 5,000,000 francs. Boots, shoes, and hair and tooth brushes are also made in this district. The handles of the brushes

are made in the homes of the workers, with the aid of electrical power obtained from the river Thérain. It is said that in this district and in Neuilly, near Paris, nearly every peasant carries on some petty industry. In the department of the Oise, in which Beauvais is situated, the value of the vegetable crops in some years has amounted to over 1,000,000 francs. At Meru, in this department, paper knives, napkin rings and shoe-horns are made, and the famous French fan industry—which alone yields France about 10,000,000 francs per annum—is carried on.

At Nogent-le-roi, to the south of Chaumont, on the Marne, the peasantry make all sorts of cutlery, each peasant having his small holding and making penknives, scissors or surgical instruments in his home.

The artistic skill and taste of these peasants, in providing so many varieties of useful articles from bone, ivory, horn or mother-of-pearl, is wonderful. It may be thought that it would be difficult to develop similar skill among the settlers in Canada—and so it would, for a time—but, with government assistance and proper organization, any difficulty could be overcome, and the work would be well worth while. It is only by hard work that the French peasantry have acquired their artistic qualities, but, so far as these might be a special attribute of the French race, Canada has a sufficiently large French population to make it to her interest to cultivate the taste and skill which have contributed so much to the prosperity of France. As for the Anglo-Saxon race, Mr. Givskov rightly points out that in America and elsewhere they "have given abundant proof that under favourable conditions they are able to turn out artistic work of the highest quality and of the most exquisite taste and beauty." But for the fact that during times of peace we neglected such small industries as those carried on in France, and allowed them to become the monopoly of other countries, we should not have had to pay such high prices for many manufactured articles to-day and would have had healthier agricultural conditions.

ADAPTATION TO CANADIAN CONDITIONS

Of course, the industries which are most successful in France may not be adapted at all to Canada, but that is a detail. The principle is the thing with which we are concerned and there can be no question that the combination of village industries with agriculture would be a valuable thing to promote in Canada. As to its practicability, it may be that until it is tried out it is not wise to assume too much on that count. But allowing for intelligent adaptation of the system to our conditions, and not for mere blind imitation; considering our climatic conditions, which make it difficult for the farmer to do outside work for much of the winter; considering the opportunities there are for making useful articles out of our native materials, and the innumerable sources of water-power available to create electric energy, is it too much to say that there must be many village industries which could be successfully created? It is true that there are examples in France where the peasant farmer is earning a starving wage from his village industry because of lack of co-operation, but there are others where, by co-operation, the same industry produces excellent results. This only proves the need for proper business methods after the foundation of ownership and technical skill

has been laid. In the basket-making industry the earnings of those who work under firms of osier planters, without co-operation, is from one-fifth to one-ninth of the earnings of those who work through their own co-operative association.

USE OF NATIVE WOODS

Canada is peculiarly rich in native woods, but we have not yet attempted to convert them into manufactured articles to any extent. There is nothing which illustrates the strength of petty industries in France to a greater extent than the use to which the peasants put the native woods. Great quantities of fans, paper-knives, brushes, spoons, salt-boxes, scales, flutes, spindles, funnels and boxes are turned out by the peasant workers in such places as Fresnaye, near Alençon. Wood is obtained from adjacent forests, each peasant having his own lathe, which he works when not engaged in cultivating his garden or his field. Carvers and makers of furniture and souvenirs are to be found in the rural districts all over France—other articles which are made are bellows, tapestry, pottery, metal work, telescopes, watches, etc. In the case of watches, which is one of the most important small industries, particularly around Lyons, it is interesting to find that, although these are largely made in the homes of the people, yet hardly any single man can turn out a complete watch—showing that even in these small industries the advantage of the division of labour is recognized. At Cluse electric power is transmitted to the homes of the watchmakers from a power station adjoining the river—and the yield of the industry in this district alone is 3,000,000 francs annually. Schools for training watchmakers have been established at Besançon, which is the great watch-making centre of France. There is no machinery used, but labour is well organized and subdivided. About 8,000 workers in Besançon produce from 400,000 to 500,000 watches every year.

These industries are all carried on in conjunction with farming, and it is this that has helped to give to France her strength of manhood, her intelligent citizenship and her enormous wealth. The present war has revealed to many how great France really is; it is no new-found strength, but the product of a combination of intelligent application to skilled industry and healthy life in the open country. As much as \$240 per acre per annum is made from land cultivated by the peasant workers in some districts, so that their skill in gardening or farming does not suffer from their ability to manufacture.

GOVERNMENT ORGANIZATION NECESSARY

The creation of village industries in Canada would do much to improve agricultural conditions. That there is need for such improvement goes without saying; indeed there is no more pressing social question in Canada. But the danger may be in trying to effect it by some method which fails to bring into play all the forces, facilities and kinds of organization which are necessary to secure permanent success. The farmer lacks initiative and the conditions under which he can co-operate with the members of his class with advantage. That initiative and these conditions must be provided for him. Village industries, social amenities, improved planning of new territory, and better roads made

in advance of settlement, should be promoted as a definite part of any scheme of land settlement. They are not enough in themselves, no more than merely giving free access to the land is enough; but they are essential parts of any scheme. Government assistance will be needed; the initiative must come from the government; and the problem is so acute, so difficult, and requires so much thought and organizing skill, that probably no way will be found to deal with it properly short of the creation of a Colonization Branch of a Federal Department to give undivided attention to the problem.

HOUSING CONDITIONS IN CANADA

SURELY the poorest and meanest citizens of any country are entitled to decent and sanitary shelter. This should not be withheld from them because of misfortune or inefficiency. Neglect of the conditions in which many people have to live is often excused on the ground that they themselves are responsible, even though it is not them, but their children, whose health and moral upbringing is of such value to their country, who are the chief sufferers from the neglect. But these excuses are most frequently offered by those who profit from existing bad conditions and whose minds have become warped by that fact. People soon become degraded by bad conditions, and it is easy to point the finger of scorn at them and say they are responsible for their surroundings. After we have permitted them to become degraded, after we have allowed dwellings to be erected in which their sense of decency cannot be kept, we organize educational campaigns and preach at them and expect them to respond. At great cost we provide schools for their children, thinking that we can properly train young minds in bodies diseased and stunted by lack of air and clean surroundings. At further expenditure we pro-



"Apartment" house now being erected in a Canadian city—rooms dark, old frame building with decayed timbers incorporated in the structure; formerly occupied by two families—now being reconstructed for from six to ten times that number; a fire menace to the inhabitants and to the surrounding buildings.



Four storey tenement house in a Canadian city occupied by eight families.

vide hospitals and asylums, to correct mischief, much of which might have been prevented by proper building by-laws. Our factories and workshops want, meanwhile, efficient and mentally alert men, and the country loses in the sum of its physical strength, intelligence and spiritual force.

Why is it all necessary? The better buildings we erect the better it is for the builders; the more land we occupy with homes and gardens the better it is for the real estate owners; the less danger of fire the better it is for the insurers; the higher the standard of living of the poor the less taxes have to be paid by the rich; the greater the nerve power and endurance of the labourer the better it is for the manufacturer; the more healthy and clean citizens we have the better it is for the country.

Some of the "homes" in which Canadian citizens live are shown in illustrations accompanying this article. Our fault is not that these buildings have been erected in the past but that we permit them to be occupied to-day; indeed, as is shown in one of the views, that we are erecting them now.

Should it not be a crime in Canada, as in England, to erect crowded wooden tenements for habitation, to permit old decayed timbers to be used in construction, to build what are admitted to be fire traps, to crowd up rear lots intended for gardens and leave hundreds of vacant lots unbuilt on? The responsibility for these conditions rests with our local authorities and in dealing with them there is no difficulty that has not been met elsewhere. When blood is being shed for Canada it is all the more important that we should see to it that the poorest home is worthy of the sacrifice.



Wooden tenements in eastern city in Canada showing crowded rear lots, narrow entrance from street, flimsy construction, untidy yards; a perfect fire trap. Rear lots being removed for some distance from main pipe lines and on lower level are seldom served with water and sewerage, and being hidden from the public gaze, the accumulation of garbage is encouraged.

ANGLO-FRENCH TOWN PLANNING IN 1298

When Henry II of England married Eleanor of Provence the union brought certain French territory under his crown. In succeeding years Henry was continually struggling with Louis IX for supremacy in Southern France and both monarchs planned and founded new towns as bases for military operations.

In 1298 Edward I wrote from Bordeaux to London asking the authorities to send them four competent town planners—"those who best know how to divide, order, and arrange a new town in the manner that will be most beneficial to us and the merchants."

Montpazier, in the department of the Dordogne, is said to be the best example of these towns—and others laid out by Edward were Li-bourne, Sauveterre, Monsegur and LaLuide.

In Canada, where the two peoples who have enjoyed the entente cordial, and have intermarried and contributed to each other's genius and strength over so many centuries,—with sundry and passing breaks caused by political ambition and not by racial animosity—may we not derive inspiration from the early Anglo-French town planners of old France, and seek to "divide, order and arrange" our cities and towns in the manner that will be most beneficial to the commonwealth?

THE PURCHASE OF LAND FOR BUILDING PURPOSES

II.—LAND ASSESSMENT

IN a previous article it was shown that land gambling in Canadian cities and towns had caused much distress to purchasers of real estate and financial difficulties to the cities and towns themselves; that the high land values which were a consequence of such gambling were not a form of wealth but a tax upon the community; that the realizable value of land at a given time was its true value at that time and included prospective value; and that calculation of gains and losses should be made in regard to purchases of land on the basis of interest tables which were appended to the article. Before entering further into aspects of the subject which affect the private investor and the individual member of the community as a house-owner or land user, I propose to deal with the important question of land assessment.

According to law in Canada there is a direct connection between the market value of land, known as the "actual value," and the value which is given to it by the assessor for purposes of taxation, known as the "assessed value." In Ontario the Assessment Act provides that "land shall be assessed at its actual value." The value of land and buildings have to be ascertained separately and set down separately in the columns of the assessment roll. In each municipality the assessor has to sign a declaration, on oath, that he has justly and truly assessed "each of the parcels of real property so set down at its actual value."

Whatever defects this law may have as a basis for taxation of land cannot be ascertained because of the lax way in which it is administered. Until the law as it now is, in Ontario, for instance, is uniformly and equitably applied objection to its provisions can only be made on theoretical grounds, since its proper application has not been tested in practice. On the other hand the defects of administration are such as should and can be remedied, whether the law of taxation is altered or not. All proposals for revising the system of taxation of land and improvements in Canada have one defect in common, namely, that they do not include as an essential preliminary to such revision, the settlement of right principles and practice of land valuation. Let me take a possible case derived from assessment value in a district with which I am familiar:—

A is a owner of a site of 2 acres in Ontario, which he purchased for \$10,000 and on which he erected a house at a cost of \$30,000, making his total investment \$40,000. He is assessed at \$2,000, which is one-twentieth of the real value of \$40,000. The market value of the premises has increased since the investment was made.

B is owner of a site of 3,000 square feet (30 x 100), for which he paid \$500, and on which he has erected a house at a cost of \$1,500. He is also assessed at \$2,000, being the actual value. The properties of A and B are presumed to be in separate municipalities but in the same district, and the sites may be regarded as equally appropriate and central for the purpose for which they are used. I will allude to the

legality and equity of these assessments later, but my present object is merely to show how the property of A and B would be affected by a change in the incidence of taxation.

We will assume that the tax rate in both cases is two per cent. Thus both pay the same tax of \$40 per annum on properties worth \$40,000 and \$2,000 respectively. Now, assume that the law is changed so that the tax of \$40 in each of these two contiguous districts has to be collected on land value only. It is difficult to see what would happen in A, since it is obvious that the assessed value has no relation at all to the real value, but either one of two things would probably happen. The assessor might simply retain his present valuation of \$2,000 as the value of A's land, since by doing so he would be getting nearer to an equitable basis, or he might calculate that, if the assessed value of a site and building worth \$40,000 is 5 per cent, *i. e.*, \$2,000, then the assessed value of the site alone, worth \$10,000, is also 5 per cent, *i. e.*, \$500; therefore he would increase the tax to eight per cent to obtain the same amount. The latter would also be what would happen to B. There would be no real change, and the inequity would continue, because the assessed value in the case of A is wrong. The reader will also observe an important distinction between A and B, which makes the comparison more important as an illustration. A's site of two acres could accomodate twenty houses of the type on B's lot; and, if "improved," by the erection of an apartment house, would be worth four or five times what it cost to the owner. On the other hand B's lot is put to full use. So far as the necessities of shelter go it may be calculated that A enjoys the luxury of having $1\frac{3}{4}$ acres more than he actually needs while B has probably less than he needs. A, again, is a wealthy citizen, judged by the cost of his home, while B is a poor man, to whom every dollar of expenditure is important. It is obvious that on all counts some more equitable system of taxation is wanted, but how can it be secured on such a valuation basis as here exists?

The above figures are based on actual cases but, as further proof of the inequity of the system of valuation which exists in the district referred to, I give the following figures taken from the assessors' rolls. The valuations are taken in two townships within an area having a radius of three miles from the centre of a city.

	Total assessed value	Assessed value per acre	Approximate market value per acre	Approximate percentage of market value assessed
(1) 212 acres, farm land	\$ 8,810	\$ 41.50	\$1,000	4.1 %
(2) 15 acres, building land . . .	16,500	1,100.00	1,100	100 "
(3) 10 acres	2,000	200.00	2,000	10 "
(4) 3,300 square feet	450	5,940.00	5,850	100 "
(5) 5,000 square feet	500	4,356.00	4,356	100 "
(6) 19 acres	5,000	263.00	5,000	5.2 "

In the case of No. 3, the total assessment of land and buildings is \$5,000 for one purpose and \$78,000 for another purpose.

It stands to reason that if it is within the power of an assessor to value land at from four to five per cent of its market value, and to declare that as its proper value, it is within his power to vitiate any system of taxation by juggling with the values.

The next point to consider in this connection is the influence of the assessed value on the sale value of property. Probably this influence is in the direction of making values high, but in the cases above cited it is not apparent that the assessment affects real values one way or another.

No doubt, in the case of small building lots, a high assessed valuation has an effect in giving a purchaser an inflated idea of values, and mortgagees are likely to be influenced in some degree in the same way. In the case of No. (2) in the above table I am informed that the land was placed on the assessment roll at a value *fixed by the owner for speculative purposes*. This assessed value was 100 per cent of the market value, although adjoining areas were assessed at five per cent of their market value. These facts point to two things, first that the speculator calculated on the high assessed value having an effect in securing a better price for his land, and, because of this, he was willing to pay twenty times as much in taxes as he need have paid, and, second, that an assessor may permit owners to value their own property, notwithstanding that the assessor has to swear that the value is the actual value in his own judgment. There must be many owners like this speculator in every district, who pay taxes on a high valuation without protest because they think that the high valuation will influence purchasers in giving a better price. Moreover, where real estate interests have a strong influence on local authorities, there has been a tendency in the past to keep assessed values high, presumably in the interests of real estate. Probably in the end these interests suffer much more than they gain, and this is beginning to be realized.

If we take the district to which reference has already been made, it is found that low assessments do not make market values low. The reason for this is probably twofold. In the first place many purchasers do not pay much attention to assessed values as a means of determining actual values, and rightly so. In the second place the intelligent purchaser knows that the land is worth more because of the low assessment, if that assessment is likely to be permanent. Take two cases from the above table:—

No. (2) is assessed at \$1,100 per acre, and the purchaser, in paying this sum, recognizes that his tax will be \$22 per acre per annum on that valuation. At 20 years' purchase that tax may be capitalized at \$440 per acre, so that the total cost of the land and commuted taxes may be roughly put at \$1,540 per acre. No. (6) is assessed at \$263 but is worth \$5,000 per acre. The tax will therefore be about \$5.26 per acre, or \$105 capitalized—making the total cost on the same basis \$5,105 per acre. Thus, in No. (2) the tax amounts to a 40 per cent increase over the net land value and in No. (6) it amounts to 2.1 per cent increase. Therefore the effect of the low assessment in (6) might easily be to cause a purchaser to give, say 20 per cent, more for the land (\$1,000) because of the saving in taxes. Generally speaking, therefore, it does not appear

that low assessments should cause sale values to be low, although a great many people, including real estate operators, pay taxes on high values on the assumption that they do. In proportion as purchasers of land become better informed on the subject they will prefer the land with a low assessment.

From the general public point of view, however, it is unjust and inequitable that assessed values should not be either the full market value of the land, *i.e.*, actual value, or a definite and fixed percentage of that value in each province. In Ontario the law provides for this basis of valuation, but as is shown above, it is utterly repudiated in practice. Until we have in operation a more uniform and equitable system of valuation for assessment purposes it would appear to be waste of time to discuss proposals for tax reform.

Purchasers of land should not permit themselves to be influenced in any degree by values fixed for assessment purposes, although at the same time the assessor's roll should be a guide to the actual value. This would be the case if every assessor were an expert and trained valuer, if the law were carried out and if there were a Department of Municipal Affairs in each province to secure proper and systematic valuation. Other aspects of this question will be dealt with in a subsequent article.

FOOD CONTAMINATION BY FLIES

WITH all the advance which has been made in recent years in regard to public health regulation we have done little to deal properly with the garbage question, both as regards arrangements in connection with the home or other buildings and as regards collection and disposal by the authorities. It is no easy problem to deal with. There are difficulties in connection with garbage collection in cities and towns in all countries. These difficulties are particularly acute in Canadian cities and towns because of the climatic conditions and the scattered nature of the building development. Proper provision for the collection of garbage is made in few cities, and so long as this matter is neglected, public health will continue to be endangered, and food will continue to be contaminated. Not only is it desirable that sanitary receptacles should be provided but also that provision should be made in the erection of buildings for the "housing" of these receptacles, to suit Canadian winters and for the paving of parts of all backyards with non-porous material, as is required in the building regulations of British cities. The immediate surroundings of buildings in which food is stored or being prepared require to receive special attention, and, unfortunately, they are often the most neglected.

The extent to which the fly pest is allowed to flourish, as a result of permitting refuse to accumulate in yards, is most deplorable, having regard to the serious evils which follow. The efforts which are made to lessen the evil by means of "clean-up weeks," however beneficial as a temporary palliative, cannot be regarded as affording any large measure of protection, and more stringent regulations and more scientific methods are required to deal with it.

PROSECUTED FOR ALLOWING FLIES ON FOOD

A prosecution of a unique kind, which was brought before the Police Court in St. Helens, England, in September last, illustrates one direction in which greater activity should be shown by our public health authorities. A local confectioner was charged by the medical officer of health of the borough with exposing for sale chocolate cream unfit for human consumption. The following notice of the case appeared in the *Municipal Journal* of September 29th:—

"The evidence given by Dr. Cates was to the effect that on the 4th inst. he was passing the defendant's shop, when he noticed a considerable number of flies in the window. He noticed exposed for sale a dish of chocolate creams, in bars, which obviously were unfit for food. The surface of fourteen of the bars had been melted by the sun, and between twenty and thirty flies were crawling over it, while four flies were imbedded in the cream. During the time he looked through the window, probably not more than a minute, between twenty and thirty flies were crawling over the chocolate. He seized the chocolate, which was destroyed.

"In reply to the bench, Dr. Cates said that nearly all the summer diarrhœa they had in the town was directly due to contaminated food, chiefly contamination by flies, and, besides that, there were innumerable cases of illness in the summer arising from the same cause.

"The defendant, who said the window had been cased in, and that he had done what he could to deal with the flies, was fined 40s., or twenty-eight days."



A dirty yard and exposed manure bin,

FACTORY SURROUNDINGS

In addition to cases in which human food is exposed to contamination in stores one finds factories, in which such articles as chocolates are made, and bakeries, situated in the most crowded and insanitary parts of our cities. Nearby there are the slums, from which cheap casual labour can be obtained, with their bad sanitation and the high death rate among their occupants; and adjoining are stables and manure heaps and accumulations of domestic refuse. It is not only necessary that stores and factories in which food is made or stored should be sanitary, but that the surroundings of such places should be kept in clean condition and that the paving of yards and the character of the building construction should be carried out under proper building regulations and subject to careful inspection. The day is coming when the makers of bread, biscuits, preserves, candies, chocolates, and other foods will find that their best advertisement is that they are produced not only in airy and sanitary factories, but in factories having clean surroundings and healthy and agreeable home conditions for those who work in them.

Messrs. Cadbury, Rowntree and other large cocoa and chocolate manufacturers in England have long since recognized the business advantage of building model villages for their workers in the open country round their factories. Not only are the workers in these factories more healthy, but they are more efficient as a result of their improved living conditions. It is desirable to have clean factories where food is made but it is also desirable that the people who work in the factories should come from clean homes and that considerable areas around the factories should be under such control as will secure the best sanitary and hygienic conditions. The responsibility for securing these conditions rests with the manufacturer; and, in fulfilling that responsibility, he will find, as Messrs. Cadbury and Rowntree have found, that it pays to look after the housing of the workers and to have open and healthy surroundings to the factory.

THE HIGHWAYS OF ANCIENT ROME

"The capitals of Syria and Egypt held a still superior rank in the empire; Antioch and Alexandria looked down with disdain on a crowd of dependent cities . . . All these cities were connected with each other and with the capital by the public highways which, issuing from the Forum of Rome, traversed Italy, pervaded the provinces and were terminated only by the frontiers of Empire . . . The public roads were accurately divided by milestones and ran in a direct line from one city to another and with very little respect either of nature or private property. Mountains were perforated and bold arches thrown over the broadest and most rapid streams . . . Houses were everywhere erected at the distance only of five or six miles; each of them was constantly provided with forty horses and by the help of relays, it was easy to travel a hundred miles in a day along the Roman roads."—*Gibbons*.

HOUSING, TOWN-PLANNING AND CIVIC IMPROVEMENT IN CANADA

THE CIVIC IMPROVEMENT LEAGUE OF CANADA

THE membership of the Dominion League continues to grow in a satisfactory manner, and new branches are being formed in different parts of the country. The next meeting of the Dominion Council is proposed to be held in Ottawa on January 16th or 17th, 1917—during the annual sessions of the Commission of Conservation. Many important questions will then come up for consideration, among them being the place and date of the next Dominion conference.

During the past ten months effort has been largely confined to the work of organization throughout the Dominion. Considerable difficulty has been encountered in building up this organization at a time when so much attention is naturally being given to war problems and in a country of such distances as Canada. But nevertheless, steady and material progress is being made.

PROGRESS IN PROVINCES AND MUNICIPALITIES

BRITISH COLUMBIA

Probably owing to the intervention of the election, there has been little progress of a definite character in developing the Civic Improvement organization of British Columbia during the last three months. Now that the political situation is settled it is expected that there will be a resumption of activity. The urgent needs in the province are the passing of a Housing and Town Planning Act and the establishment of a Department of Municipal Affairs. These are questions which should appeal to the new government and the matter has been brought to their attention. Local action should be concentrated on these proposed measures for a time.

ALBERTA

There has been some progress in connection with local organization in Alberta; the putting of the existing legislation into practice is the most urgent question.

SASKATCHEWAN

As previously reported, a Bill Relating to Town Planning was submitted to the Legislature at its last session and passed its first reading. In the form in which it passed the first stage it was the most advanced town planning measure in Canada. The next stage has now been reached, and the bill is being considered in detail by the Legislative Counsel and the officials of the Department of Municipal Affairs, with a view to its re-introduction as a government measure during the January sitting.

MANITOBA

Winnipeg. Last year a group of Winnipeg citizens formed the Citizens' League for Municipal Betterment. "Keeping track of the citizen's business" is the key-note of the policy of this league. It intends to do so by research into financial and administrative conditions in the City of Winnipeg and by the issue of explanatory literature. The membership of the league is somewhat restricted but it includes many of the best business men in Winnipeg. This league is affiliated with the Dominion League.

In September last a Civic Improvement Council was also formed in Winnipeg, at a meeting which was representative of 29 local organizations. The object of this league is "to unify all the elements of the community in active co-operation for the betterment of the city in a spirit of enlightened public service; to proffer its good offices to the city authorities in any matter on which it may be consulted."

ONTARIO

Port Arthur. The Civic Improvement League of Port Arthur is making good progress and has undertaken valuable research work into the question of assessments for

taxation purposes, and in discussions with the Local Council of Women regarding the high cost of living.

London. An important conference was held in London on the evening of December 5th. The following is an extract from the report printed in the *London Free Press* of December 6th:—

Conference on Municipal Government and Land Settlement

"Proposals for the development of a comprehensive town planning scheme, with a view to the betterment of conditions, urban and rural, and the adoption of a resolution praying the Provincial Government to establish a department of municipal affairs, marked a meeting held under the auspices of the Board of Trade at the Tecumseh House last evening.

"The session was preceded by a banquet, which was attended by scores of London's foremost citizens and representatives of municipal and other bodies and boards of trade throughout Western Ontario. The speaker of the evening, Mr. Thomas Adams, town planning expert of the Dominion Commission of Conservation, gave a lucid and thorough exposition of the aims of the town planning movement, and so impressed the merits of the scheme upon his auditors that machinery was set in motion for the formation of a Civic Improvement League for the district contiguous to London, between the areas of which Windsor and Hamilton are regarded as the natural centres.

"It was explained that the Provincial Government has made all arrangements to the end of instituting a department of municipal affairs, but that there is an inclination to leave the matter in abeyance until the close of the war. Urging is therefore expected to have the desired effect, and the following motion, moved by Mr. C. McIlhargey, of Stratford, and seconded by Mr. A. E. Silverwood, of London, was adopted:—

"That this meeting supports the proposal that there should be a department of municipal affairs for Ontario, and also that a town planning act should be passed, to give municipalities greater power to regulate their development on the lines advocated by the Conservation Commission.

"Dr. Bennett, of St. Thomas, president of the Ontario Horticultural Association; G. E. Main, a representative of Hamilton Board of Trade; Dr. E. E. Braithwaite, president of Western University; Ald. Cahagan, of Woodstock; Ald. J. V. Buchanan, of Ingersoll, and Mr. McIlhargey, of Stratford, all supported the resolution."

TOWN PLANNING CONFERENCE OF SOUTHWESTERN ONTARIO.

Hamilton. The second annual conference of municipal authorities and Boards of Trade in southwestern Ontario was held at Hamilton on October 2nd. Delegates were present from a large number of cities, towns, villages and townships in the part of Ontario that lies between Hamilton and Windsor. Mr. G. Edwin Main, of the Board of Trade, presided, and the delegates were welcomed to Hamilton by Acting Mayor Morris. The following papers were read: Municipal Government and Finance, Mr. K. W. McKay, editor of the *Municipal World*; Town Planning and Good Roads, Mr. W. A. MacLean, Deputy Minister of Highways, Ontario, and Town Planning Legislation, Mr. Thomas Adams, Commission of Conservation. Following the reading of the papers there was considerable discussion by the delegates. The conference extended to three sessions, and at the closing session resolutions were passed asking the Ontario Government to establish a department of municipal affairs and to pass a town planning act for the province. A third resolution called for the general adoption of the Highways Act so as to secure more co-operation between cities and counties in regard to road construction.

A large and representative Committee was appointed to interview the Government, and the following officers were elected for the coming year:—

President, Mr. G. Edwin Main (Hamilton); vice-presidents, E. C. Mitchell (London) and E. P. Coleman (Hamilton); Treasurer, Mr. H. D. Petrie; Secretary, Mr. J. J. McKay. It was decided to hold the next conference in Hamilton. A report of the conference is being printed and copies can be obtained on application to Mr. J. J. McKay, secretary, Town Planning Commission, Hamilton.

Renfrew. Progress is being made with the preparation of an official town plan for the town of Renfrew.

QUEBEC

The Quebec Government has had under consideration the question of passing a Town Planning Act this session. The Premier, Sir Lomer Gouin, appointed a committee, consisting of the Provincial Treasurer (the Hon. Mr. Mitchell) and Dr. Desaulniers, to report on the matter. After conference with the Town Planning Adviser of the Commission of Conservation it has been decided that the present session of the Legislature is too short to enable adequate consideration to be given to the subject. The government is favourable to the principle of a town planning act, but, owing to the peculiarities of this province in regard to municipal government, it is more difficult to frame a suitable measure than in the other provinces.

Montreal Town Planning Conference

Montreal. The Commission of Conservation and the Civic Improvement League of Montreal convened a conference to consider the desirability of town planning legislation being passed in Quebec, at the Windsor Hotel, Montreal, on the 20th of November, at 4 p.m. The Hon. Senator Dandurand presided over a large and representative gathering of Montreal citizens and delegates from associations and civic bodies. Dr. W. H. Atherton acted as secretary.

Addresses were given by the Hon. J. J. Guérin, Mr. Thomas Adams, Dr. F. D. Adams, W. Gustav Francq, Lieut.-Col. J. G. Adami, M.D., Dr. Grace Ritchie England, Mayor J. Beaubien, Aldermen McLagan, W. D. Lighthall, K.C., Mr. J. Duchastel, and Mr. John Bradford.

A resolution, which was submitted to the meeting in English and French, was agreed to, urging the Quebec Government to pass a town planning act for the province at this session.

Montreal Board of Trade. The council of the Montreal Board of Trade passed a resolution in favor of town planning legislation at a meeting held on November 24th.

Quebec. The Town Planning Adviser addressed the Canadian Club of Quebec on town planning at a meeting held on November 28th.

MARITIME PROVINCES

The work of preparing schemes for Halifax and St. John is proceeding.

The question of establishing a department of Municipal Affairs in Nova Scotia is under consideration.

MODEL SUBURB OF HONG KONG

TOWN planning is making progress in all parts of the British Empire including India. Now comes a report that a model suburb is being planned chiefly for the purpose of housing of wealthy Chinese near Hong Kong. A considerable tract of land is being reclaimed and a company has been formed to develop the suburb; wide avenues, a modern sewerage system and other public services will be provided. The new suburb will be located on the south side of the Kowloon peninsula, the mainland portion of the colony of Hong Kong. The site will cover a tract 8,000 feet long by 1,500 feet broad embracing the foreshore only, but backed by hills from which several small streams emerge. The plan includes the erection of four piers, with space for warehouses on the water front; with the extension of the piers and the dredging to be done in reclamation work sufficient depth for ordinary ocean going vessels will be had at all tides.

Unless delayed by a lack of machinery it is expected that the reclamation will be completed in about two years, as in spite of the war the plans have been completed and the work is to commence at once.

PRINCE RUPERT

IN the last issue of *Conservation of Life* the following sentence appeared: "Much of the expensive development seen at Prince Rupert would not have had to be incurred if the plan had not been prepared to suit the requirements of the land speculator."

The Secretary of the Grand Trunk Pacific Railway—Mr. Henry Philips—takes exception to this statement on the ground that it seems to imply a speculative motive to the founders of Prince Rupert—the Grand Trunk Pacific Railway Company. Such an implication was, of course, not intended to be conveyed; on the contrary all evidence goes to show us that the only motive which inspired the Company and its landscape architects was to lay the best possible foundations for the city so far as that could be secured by the preparation of a plan. The Company spared no effort nor money in trying to attain that object. Nevertheless the platting of the land was so arranged as to facilitate the work of the land speculator, and this work has not only been detrimental to the city but injurious to the company and to its expensive plan.

The Grand Trunk Pacific Railway Company did more than any similar corporation in Canada has done to get their Pacific terminal city properly laid out; the pity is that in spite of all they did the practical results are so unsatisfactory. What are the underlying causes of this state of things, and above all what are the steps that should be taken to make Prince Rupert the healthy and prosperous city it should be? A report dealing with that composite question is being prepared by the Town Planning Adviser of the Commission of Conservation and will be submitted to those within whose power it is to provide the remedy.

TOWN PLANNING IN AUSTRALIA

THE town planning legislation that has been drawn up for the consideration of the Australian Government has been framed after the model of the draft act of the Commission of Conservation of Canada. In reporting to the government of Victoria on this subject Mr. Charles C. Reade compares Canadian and Australian conditions. He says that between Canada and Australia there is a marked similarity in the conditions of town and city growth. In both countries most of the new suburban developments are due to the operations of private owners or agents cutting up and selling off allotments, planned on the usual grid-iron plan and disposed of freely under a simple system of land transfer, and on comparatively easy terms. Speculation in suburban land values in both countries is rife, and the results in creating high building values for land that was originally field or paddock, and disposed of under the foot frontage method, are very similar. A notable feature of these results is the general haphazard development and the straggling growth of suburbs in recent years. Generally speaking, land also is apportioned among a large number of small owners.

"Both in Canada and Australia town development is more open in the suburbs than in England, and one of the effects of this more scattered

development is to increase the cost of making suburban streets and other local improvements compared with English towns, where a larger density of population is confined to a more compact area. Moreover, possession of the freehold in England is not easy to secure, and speculation is restricted accordingly. In Canada and Australia it is a fact that in many towns to construct and maintain all suburban streets in accordance with the standard of construction desired by the public would involve too high a charge for the suburban property to bear."

PRELIMINARY LIST OF CIVIC IMPROVEMENT LEAGUES AND KINDRED ORGANIZATIONS IF CANADA

NOVA SCOTIA

Halifax.....Civic Improvement League....R. M. Hattie, Coburg Road,
Secretary.
Halifax.....Bureau of Social Service.....Miss Ethel Bird, Director.
Nova Scotia.....Union of N. S. Municipalities..Arthur Roberts, Sec.-Treas.,
Bridgewater, N. S.
Halifax.....Town Planning Board.....R. M. Hattie, Secretary.
Yarmouth.....Town Improvement Committee Mrs. Alex. P. Lewis, Convener.
Darmouth.....Town Planning Board.....R. L. Graham, Secretary.
Stewiacke.....Town Planning Board.....Alderman McNutt.

NEW BRUNSWICK

St. John.....Town Planning Commission...W. G. Burditt, Chairman.
St. John.....Board of Trade Civic Improve-
ment Committee.

PRINCE EDWARD ISLAND

Prince Edward Island..Development Commission....F. R. Heartz, Chairman, Char-
lottetown.

QUEBEC.

Lennoxville.....Civic Improvement Committee L. G.' T. Lynch, Secretary.
of Board of Trade.
South Shore.....Board of Trade C. I. Committee F. J. McClure, President,
Board of Trade.
Sherbrooke.....Town Planning Committee..J. J. Fitzgerald, Secretary.
Board of Trade.
Montreal.....City Improvement League....H. W. Atherton, Exec. {Sec.
Catholic Sailors' Club.
Union of Canadian Municipa-..W. D. Lighthall, K.C., Hon.
lities. Sec.-Treas.

ONTARIO

Ottawa.....Civic Improvement League....Ronald Hooper, Sec., 13 Second
Avenue.
Toronto.....Bureau of Municipal Research..Dr. H. L. Brittain, Secretary,
Traders Bank Building.
Toronto.....Civic Guild.....Jas. B. O'Brian, President,
Traders Bank Building.
Toronto.....Civic Improvement Confer- Dr. H. L. Brittain, Director,
ence. Bureau of Municipal Re-
search.

Toronto.....	Ontario Municipal Association..	F. S. Spence, Secretary, 705 Lumsden Building.
Toronto.....	Housing Company.....	W. S. B. Armstrong, Secretary, Riverdale Courts, Bain Ave.
Toronto.....	Canadian Public Health Association.	President, Dr. Chas. Hastings.
Hamilton.....	Civic Improvement Committee..	T. L. Brown, Sec., Board of Trade Offices.
Hamilton.....	Southwestern Ontario Town..	J. J. MacKay, Sec., City Hall.
Hamilton.....	Town Planning Commission...	" " " " "
Renfrew.....	Board of Trade.....	W. E. Smallfield, President.
London.....	Board of Trade Civic Improvement Committee.	T. W. McFarland.
London.....	Western Ontario Civic Improvement Conference.	Gordon Philip, Sec., Board of Trade.
Sarnia.....	Board of Trade.....	T. A. G. Gordon, Secretary.
Windsor, Sandwich..	} Essex Board of Utilities Commission.	Wm. Woollatt, Walkerville, Chairman.
Ojibway, Sandwich W.		
Ford, Walkerville...		
Kitchener.....	Civic and Town Planning Association.	D. B. Detweiler, Vice-President.
Port Arthur.....	Civic Improvement League....	T. F. Milne, Sec., City Hall.

MANITOBA

Winnipeg.....	Civic Improvement League....	G. W. Markle, President.
Winnipeg.....	Greater Winnipeg Plan Commission.	R. H. Avent, M.L.S., Secretary.
Winnipeg.....	Citizen's League of Winnipeg..	W. J. Christie, President.
	Women's Civic League.	

SASKATCHEWAN

Swift Current.....	City Planning Commission....	Dr. F. G. Westlake, Secretary.
Regina.....	Town Planning Association	

ALBERTA

Edmonton.....	Board of Trade.	
Calgary.....	Alberta Town Planning Association.	Commissioner Jas. H. Garden, City Hall.

BRITISH COLUMBIA

New Westminster....	Civic Improvement League....	J. W. Cunningham.
Vancouver.....	Civic Improvement League....	W. E. Payne, Sec., Board of Trade Offices.
Vancouver.....	Town Planning and Beautifying Association.	W. E. Payne, Secretary.
Victoria.....	Board of Trade.	

Corrections and additions are invited.

*“FOR though men may make cities it is after
all cities that make men; whether our na-
tional life is great or mean, whether our social
virtues are matured or stunted, whether our sons
are vicious or moral, whether religion is possible
or impossible, depends on the city.”*

Henry Drummond.

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CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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Housing Experience in Toronto.
Cost of Land for Building Purposes.
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The Need of a Town Planning and Develop-
ment Act.
Housing, Town Planning and Civic Improve-
ment in Canada.
Department of Municipal Affairs for Ontario.

This Bulletin deals for the most part with Ontario problems; the June issue will be specially devoted to the problems of the Prairie Provinces.

Commission of Conservation
Canada



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Conservation of Life

Vol. III

OTTAWA, MARCH, 1917

No. 2

HOUSING EXPERIENCE IN TORONTO

BY

G. FRANK BEER,

President of the Toronto Housing Company, Limited

THE causes which result in improper and insufficient housing are not always immediately or easily recognizable. I do not think the building of houses, desirable as they may be, is the chief work of The Toronto Housing Company; to create a condition of living which will make the work of a housing company superfluous is to achieve the highest and most practical of all successes. The work of this company is, therefore, I submit, primarily one of investigation, and, in the second place, to translate carefully ascertained findings into action.

LAW SHOULD BE ENFORCED TO PREVENT ERECTION OF INSANITARY HOUSES

Housing reform must start by the prevention of building operations which serve to perpetuate wrong living conditions. The laws governing building construction, air spaces, light and sanitary conveniences should embody regulations which are the irreducible minimum sanctioned by the municipal and provincial governments. It is not wise, nor does it tend to reform, to enact laws which are so exacting that evasions or violations of their letter or spirit are overlooked by those in authority. Not that we should set low standards; the point is that no lower standards should be allowed than those set by the laws governing them. The progress of good housing is to be measured by the standards which are embodied in the law and enforced by the law's officers. It is better by far to have regulations that are modest, while omitting nothing that is essential, enforced to the letter than to have idealistic regulations, which are evaded by builders and landlords because not rigorously enforced by the proper authorities. It appears desirable, therefore, that building and housing regulations should be so plainly worded that no misconstruction of their terms is possible, and that penalties should be exacted from both builders and landlords in cases where these regulations are violated. Unsatisfactory conditions can be remedied only if a stop is made to the supply of new unsatisfactory houses. This is the first step in housing reform.

The next step is to bring all existing houses up to the standard set by the laws governing new buildings. If it is not right to allow new buildings to be constructed below certain standards, it is not right to allow existing houses to remain permanently below these same standards.



The Lindens, Riverdale Courts, Bain Avenue, Toronto Housing Company.
Group of Cottage Flats around recreation ground.

I do not ask for sweeping reforms, which might create difficulties and hardships equal to the new benefits; it is only reasonable, however, that by a gradual and moderately rapid raising of the standards, existing houses should ultimately be brought up to the standard set for new construction. Without such a movement every advance in the standards set for new construction places a premium upon present buildings of poor character. From the above it would appear that the best friends of housing reform are the city architect, the medical health officer and those entrusted with the enforcement of the laws governing building and housing. Toronto is fortunate in having men at the head of these departments like Dr. Hastings and Mr. Pearce. No city in America is better served by officials in these positions. It is the duty of all who desire to secure improved housing and living conditions to strengthen their hands by giving them all the legislative power necessary for control and supervision, and by supporting them at every point when their control is threatened by undesirable influences.

TOWN PLANNING AND HOUSING

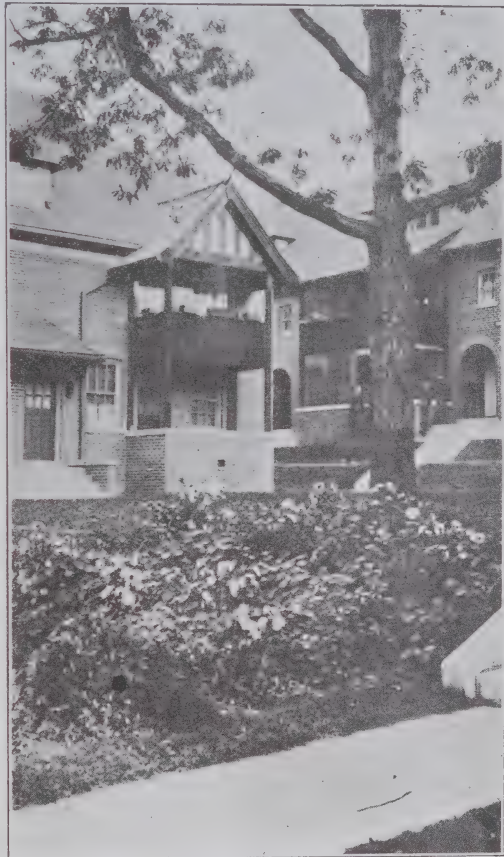
Following the two steps referred to, and, indeed, inseparably connected with them, the chief remedy for defective housing will be found in a proper system of city (town) planning. It is not necessary to enumerate the many sides of the work now commonly included under this term "City Planning." It may be desirable, however, to refer to a few of the outstanding reforms, which are all but impossible of achievement apart from town planning legislation.

It is obvious to all that the difficulties of housing are immeasurably aggravated by a lack of transportation facilities. Further with a concen-

tration of factories and shops at the centre of the city, as is the case in Toronto, ordinary transportation will not meet the needs of the workers. Nothing less than cheap and rapid transportation will prevent the congestion otherwise inseparable from the growth of a modern industrial city. It may indeed be stated that to the extent we decentralize industry to the same extent we make possible better living conditions for our workmen and workwomen. Not that this alone will supply the full remedy, but it does make other steps possible of achievement. City and town planning is concerned both with the location of factories and with the transportation of the workers. It plans the location of desirable manufacturing districts with provision for adequate shipping facilities. It plans residential districts within reasonable distance of factories. Suburban development is planned so that the natural and inevitable growth of the city may be rationally and economically guided. Its objects are economy, efficiency and foresight. It aims at the conservation of life and the elimination of waste. It is my earnest conviction that no one movement has in it equal promise for the betterment of living conditions in cities. We greatly need in Canada some authority similar to that of the Local Government Board of Great Britain. It is greatly to be hoped that the Government of Ontario will pass a Town Planning Act at its next session and create a Municipal Department.

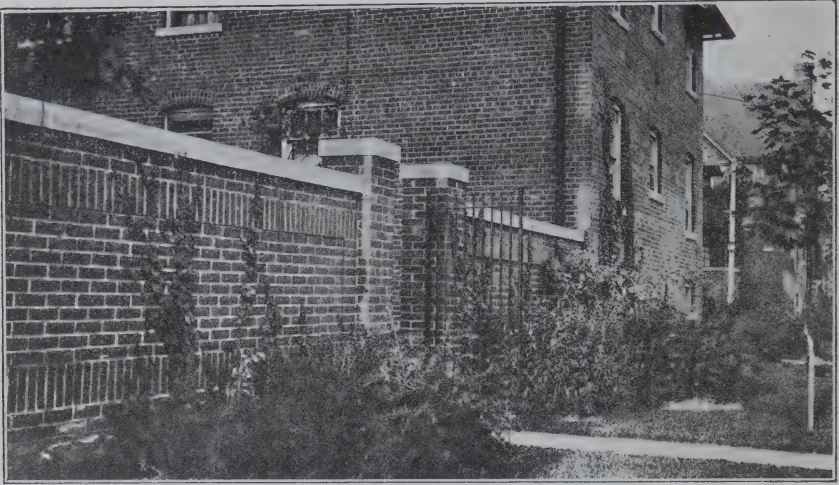
LAND TAX REFORM

No review of the measures necessary for housing reform can omit reference to the necessity for land tax reform. The commissioners appointed by the Ontario Government to report upon unemployment refer to this subject in terms which are worth our attention. They state,—I quote from the report—“The question of a change



The Oaks, Riverdale Courts, Bain Avenue,
Toronto Housing Company

Cottage Flats with separate front doors and balconies. Each flat has a bath room. Heating is by steam from a central station. Hot water is supplied all the year round.



A Garden Gate, Riverdale Courts, Toronto Housing Company.

in the present method of taxing land, especially vacant land, is, in the opinion of your commissioners, deserving of consideration. It is evident that speculation in land and the withholding from use and monopolizing of land suitable for housing and gardening involve conditions detrimental alike to the community and to persons of small means. Further, land values are peculiarly the result of growth of population and public expenditure, while social problems greatly increase as population centralizes and the relief of urban poverty calls for large expenditures from public and private sources. It appears both just and desirable that values resulting from the growth of communities should be available for community responsibilities. Wisely followed, such a policy involves no injustice to owners of land held for legitimate purposes; and the benefits which would follow the ownership and greater use of land by wage-earners justify the adoption of measures necessary to secure these objects as quickly as possible."

BUILDING AND HOUSING REGULATIONS

Playgrounds, housing, transportation, land tax reform, suburban land development are all included in city and town planning. To secure the enactment of a wise Town Planning Act is, therefore, fundamental to all these objects. They are not separate subjects for consideration; all alike are concerned with the living conditions of our citizens. It is the object of The Toronto Housing Company to assist all these movements, for all alike affect the *home life* in which we are interested.

In the meantime it is the object of the Housing Company to relieve the need for houses of desirable type at rentals which are within the reach of the average wage-earner. Our aim is also to demonstrate what can be done to improve home conditions by collective effort and careful planning. The great popularity of our houses is evidence that in these objects we are not unsuccessful.

COST OF LAND FOR BUILDING PURPOSES

III.—EFFECT ON HOUSING IN ENGLAND AND CANADA

SIR WILLIAM LEVER'S SCHEME OF FREE CITY HOMESTEADS

IN England the cost of land represents a smaller proportion of the cost of dwellings than in Canada. This refers to the undeveloped land, and not to land which has been improved by the construction of paved streets, sidewalks, sewers, etc. The latter is an element of cost of development which should be kept quite separate from the cost of the land. The fact that in Canada payment is made for most of the local improvements as taxes, instead of as part of the capital cost of acquiring a site, means that the public does not appreciate the extent to which the cost of housing is increased by the cost of local improvements, and other forms of development, for which the people have to pay.

It is interesting to compare what proportion of the cost of housing in England and Canada is due to the purchase of the bare site. It is very difficult to give examples of what this proportion is in England, because, as a rule, land has to be improved before sale, *i. e.*, it has to be served with paved streets, sewers and water mains before it is used for building purposes or, at any rate, before buildings erected upon it are permitted to be occupied. This means that when a site is acquired for a house the purchase price includes payment for the local improvements. In the course of experience of developing land in England, the writer has had to make precise estimates of the cost of development (that is of local improvements) and has had to construct the improvements before disposing of the land for housing purposes. In four different parts of England, and in suburban areas within easy reach of the centres of large cities varying from 100,000 inhabitants to 7,000,000 inhabitants, the price of building land in lots, without improvements, amounted to from one to four shillings per square yard, *i. e.*, from about \$1,200 to \$4,000 per acre, the former being the common price and the latter quite the exception. Before this land could be sold in lots one-third of it had to be given up for road space, and roads and sewers had to be constructed, so that the price of the land in lots had to be considerably increased. Even then the average lot for a workingman's dwelling did not cost more than about \$100 to \$250 for the bare land, as against \$200 to \$500 per lot for similar land in Canadian cities.

In the centre of comparatively large cities, \$5 per square foot or \$500 per front foot is a good price, as compared with five times that amount for land similarly situated in Canada. These rates are in districts where growth is rapid and there is a good demand for property.

Although this favourable condition exists in England it is true that in some central districts of cities land is as expensive, and when areas are purchased by local authorities much more than the value of the land has to be paid.

Local authorities have very limited powers in regard to the acquisition of land, except for specific purposes, such as parks, and for definite

schemes approved by the Local Government Board in advance of the purchase of the site. In recent years many practical men have been pressing for larger powers being given to the municipalities to purchase land. Such men hold that, while the local authorities should not compete with private interests, by actually building houses, they should purchase land, and lease or sell it to the builders, so as to more effectively control its development. One of those who has taken a strong attitude in favour of the land purchasing policy is Sir William Lever, who a few years ago offered to the Birkenhead corporation an estate of 1,500 acres outside the corporation area but immediately contiguous to it, at a price of \$400 per acre. The corporation was willing to make the purchase but the Local Government Board refused to give its sanction to the proposal.

PROPOSED FREE LAND FOR HOUSING

In regard to the present scarcity of houses in England, Sir William has come forward with a scheme for the municipalities to buy large areas of land and actually give it free to builders for the purpose of housing. As it is claimed by some financiers that money will be as dear for seven years after the declaration of peace as it is now, housing finance is expected to be very difficult. Sir William Lever objects to municipalities building houses. He says that they could only do so at a heavy loss, and at the risk of having to provide the whole of the houses themselves, since they might succeed in putting the private builder out of business. He suggests that, instead of the municipality incurring an indefinite loss in building, it should buy the land and face the loss of making a free gift of the site of the house, leaving the builder to finance and make his profits out of the building. By giving free sites for cottages in the suburbs of cities he claims that municipalities would attract people away from the insanitary houses in poor districts, thus providing a cleaner and better house and at the same time striking a blow at overcrowding.

It is suggested that land should be acquired in suburbs in large quantities at reasonable prices and offered free. Sir William Lever claims that it is just as great a responsibility for the nation to provide proper sites for the dwellings of the people as to educate the children. The only way to ensure proper education is to give it free and the only way to ensure proper housing is to provide free land. As for the objection which might be made that in doing this it would be unfair to the rest of the rate-payers, he claims that the rates payable on the property, built on this free land, would make the proposition a paying one to the municipality and therefore what was lost in giving a free site would be covered by the revenue obtained from taxes. In Sir William's judgment there is no other way to solve the problem unless it be by the tinkering and unsatisfactory method of housing people in large block dwellings, which are little better than the slums and rookeries they replace. The latter is a system which is bad for the health of the children and is costly and extravagant as well. As an instance of the cost of land, he says that a city corporation might pay from \$500 to \$1,000 per acre and permit the building of twelve houses thereon, having a total annual rateable value of \$900. The interest and sinking fund on the outlay for the site in such a case would be more than covered by the income and the rents. At present the cost

of streets and drainage (local improvements) is borne in England by the real estate operators, but he does not see any objection to even having this additional cost met by the municipality, if it is necessary to provide this additional attraction to the builder to erect houses.

TOWN PLANNING

While he is opposed to the municipality undertaking the wholesale building of cottages, he says he is "strongly in favour of the municipality or government drawing up a town planning scheme for the erection of cottage houses on broad lines before they permit a single cottage to be built." In this scheme he would provide for the acquisition of large areas of land by the local authority, and for the giving of free sites for building houses in accordance with the town planning scheme.

It would certainly be an interesting experiment if Sir William's ideas were tried. He is not only a practical manufacturer, but has himself carried out one of the most important housing experiments in England at Port Sunlight, and knows the relationship between the cost of land and houses.

FREE "HOMESTEADS" FOR CITY WORKERS IN CANADA?

If such a scheme were started in Canada it would be more likely to achieve success than in England, because the difference between the wholesale and the retail prices of land is much greater in Canada. Although there would be serious objections to the local authorities buying the land and then handing it over to the building speculators as proposed in the above scheme, there might be no objection to offering free sites to individuals desirous of erecting homes for themselves. In other words, the proposal made suggests a kind of free "homesteading" for workers in cities corresponding to farm homesteading.

There would be nothing visionary about such a scheme in a district where there was a scarcity of houses and where land could be obtained at a reasonable price within easy reach of the street railway. Let us assume a possible case. Say that a local authority decides to spend \$100,000 in bonusing population to meet a local demand for more labour. It buys 100 acres at \$500 per acre, makes preliminary roads, sewers, etc., and secures an extension of the street railway at a total expenditure for all improvements of \$500 per acre, making its total investment \$100,000. It then offers good sized lots free, on condition that the person acquiring the title agrees to erect a substantial house with good sanitary provisions within one year, and also to repay the council by an annual tax for the pro rata amount expended on local improvements. Thus the council would obtain one-half of its investment back by the local improvement tax, and might have an assessable value of a million dollars (\$10,000 per acre for 100 acres) on which taxes could be levied to pay interest and sinking fund on the other half. Note that it would not dispose of the land till the security was obtained for getting increased taxable value.

The two queries suggested to local authorities by Sir William Lever's scheme are:

First. If the giving of free homesteads by the government has been successful in attracting population to farming, would the giving of free building lots help to bring more people to a town where there was a demand for labour but inefficient housing accommodation?

Second. If the giving of free building lots to intending residents would enable a local authority to obtain a higher standard of building construction and sanitation because of the fact that all the private capital would be diverted to the building, and if it would enable it to plan and develop the land in a healthy way because of the absence of speculation; would the risk of making the investment be worth while?

THOMAS ADAMS

PUBLIC HEALTH IN ONTARIO

BY

DR. J. W. S. McCULLOUGH

Secretary, Provincial Board of Health, Ontario

IN the allied armies in France, the annual death-rate is placed by a competent observer as exactly three per thousand; the average illness, including colds and influenza, as much less than that of London, and the vigour and physical capability of the men to stand exposure and hardships greater than in any previous war. These results have been secured largely by the application of the principles of prevention of disease. If such diseases as typhus, typhoid, smallpox and tuberculosis had not been successfully combatted by science, three out of every four of the present civilized population would not be in existence. The organization and intensive application of the science of preventive medicine constitute, in this war, the strictly neutral work, by which all humanity will profit for all time to come.

During the last few years the work of the Provincial Board of Health of Ontario has been directed chiefly to the protection of public water supplies, to a proper and safe disposal of sewage, to a curtailment of communicable diseases, to the suppression of rabies, to the manufacture and supply of typhoid vaccine free of charge to the public, to the supplying, free of charge to our citizens, diphtheria, antitoxin smallpox vaccine, anti-meningitis serum, tetanus antitoxin and of free preventive treatment for hydrophobia, and, most important of all, to a system of *public health education*.

Public Health Education—The most valuable and permanent features of the work of a department of health is education. People find it just as easy to live under good health conditions as bad ones, if they but know how.

How does the Board carry on its programme of education? By the spread of pamphlets and leaflets dealing with various communicable diseases, with water supplies, sewage, flies, garbage, mosquitoes, etc. In one year the Board distributed about 130,000 each of thirteen circulars. A regular system was employed to get them into each family.

The medical officer of health was requested to indicate the number of families in his municipality, and a copy of each pamphlet or leaflet was forwarded, with instructions to have them distributed through the medium of the schools; in this way a copy of each one would go to every family, and consequently a wide and complete dissemination of the Board's literature was secured. A health and moving-picture exhibit was sent all over the province, giving instruction and amusement to many thousands of people. Lectures in connection with the exhibit are given by the district and local health officers.

Infant Welfare Bureau—The Board has established a Bureau of Infant Welfare, which supplies literature and practical instruction to mothers in the care of their babies. Any mother who is in difficulty about the care of her infant will, upon application, be given prompt and competent instruction upon any question concerning her baby.

Water Supplies and Sewage Disposal—Under the Public Health law, all plans and specifications for the establishment of waterworks and sewage disposal plants come before the Provincial Board, which employs a competent engineer to supervise such plans. The extent of this work will be appreciated when it is known that in 1915 over \$4,000,000 worth of such work was supervised by the Board. This not only ensures municipalities securing the best public equipment but has in many instances been the means of greatly lessening the expense attendant upon the construction of such work.

Laboratory—The Board maintains a laboratory, where samples of public water supplies, milk, diphtheria swabs, blood specimens, samples of sputum, etc., are examined free of charge to the public. The main laboratory is at No. 5 Queen's Park, and, in addition, there are branch laboratories at Kingston and London for the same purpose. At Stanley Park, Toronto, the Board has an extensive laboratory or experimental station, where all the most up-to-date appliances for the treatment of water and sewage are tested and their value determined. This station is being used as an adjunct of the Provincial University, where students in engineering are given practical work in sanitary engineering.

Biological Products—The Board supplies free of charge to the public, various biological products, such as diphtheria antitoxin, small-pox vaccine, anti-meningitis serum, tetanus antitoxin and Pasteur preventive treatment for rabies. The Board has also supplied all the typhoid vaccine used by the Canadian troops. This service given to the Canadian government, without any cost whatever, has relieved that government of an expense at least equivalent to \$150,000. But the results have quite justified the Board, as no better public health work could have been done.

The expense of providing the biological products to the people of Ontario will aggregate about \$40,000. Some one will say "but still the public pays for it." That is quite true. The public pays for everything, in the long run, but there is a difference in paying \$40,000, and everyone getting all he needs of an article such as diphtheria antitoxin, and in paying, as the public used to do, \$150,000 and being stinted in the supply because of the excessive price.

District Officers of Health—The Board has established a system of sanitary inspection throughout the province by means of district officers

of health. These medical officers are specially trained in sanitary work. In the new north country the work of these officers is supplemented by that of a sanitary inspector, whose special subject is the inspection of lumber, mining and construction camps, to see that these comply with the law, are kept in a clean and sanitary condition and that the labourer in the camp gets a fair deal. All these camps have a medical attendant, otherwise the employer is liable for the consequences of illness or accident to his men. Usually there are about 1,000 camps each year in New Ontario. The physical care of the workman is, as a rule, well provided for.

The above are some of the principal activities of the Provincial Board of Health.

There are many matters in connection with preventive medicine that deserve consideration, and which have, so far, either been untouched by public health departments or at least so very little that they continue almost virgin fields. One subject, in particular, is of such vital importance to Canada that it deserves special notice, namely the question of *mental disease*. In Ontario the insane person, who is committed to an institution, receives the best of care and perhaps the best treatment tending toward his recovery; but there is so far little or nothing being done to prevent the considerable increase in the number of insane, feeble-minded or mentally-disordered persons.

Those who have an interest in preventive medicine justly view with alarm the increase of syphilis, especially in the larger centres. Syphilis has a close relation to the etiology of certain classes of mentally diseased persons. The lessening of syphilis and its consequent ill-effects is a serious problem and no one seems to have elucidated any very feasible plan to deal with it.

Alcohol, indirectly, is a large factor in the causes of insanity. It is the direct cause of epilepsy. The extension of the prohibition of the retail sale of liquor cannot but do a great good in this direction.

Heredity is one of the largest factors in the etiology of mental disorders of all kinds. It seems to the writer that a much greater use might be made of the clinical and pathological material now going to waste in connection with the various large and well-equipped hospitals for the insane in Ontario. Why should not a dispensary and a laboratory be maintained in each of these institutions, and why should not the several staffs undertake field work in their respective localities? People should be instructed that insanity is a disease. Most people nowadays regard it as a sort of crime to have had any connection with an asylum for the insane. In a local dispensary persons with nervous symptoms, "borderland" cases, might be brought by their friends and judicious advice and treatment would frequently result in great benefit. Lectures might be given throughout the neighborhood, pamphlets distributed and excellent medical societies built up among the local practitioners, most of whom are too busy to peruse the extensive literature available upon the subject.

Immigration—Our loose methods in the inspection of immigrants from foreign countries has swollen the population of our hospitals for the insane beyond all anticipation. This is a most serious matter from many points of view. The foreign steamship companies are selecting the population of our country and providing the future generations of Canadians. There is no adequate system of either *mental* or *physical*

examination of the immigrant and there never will be until this examination is made by a medical officer responsible to the government and in *the native place* of the proposed immigrant.

This is a question which must be settled without delay. It is bound to become of greater importance after the war is over, for it is then that we shall have our real immigration. It is time the government and not the steamship companies had charge of immigration.

The whole question of the problem of insanity is so bound up with preventive medicine that it seems probable that in the future this question must, in the public interest, be handled as a public health question.

DOMINION GOOD ROADS CONGRESS

THE Fourth International Good Roads Congress will be held in Ottawa in April next. The Congress will assemble on Tuesday, April 10th, and will continue until the following Saturday. The Horticultural building, in Lansdowne park, has been placed at the disposal of the executive of the congress by the city authorities. The ground floor will be devoted to an exhibition of road machinery, materials and accessories, while the convention will assemble in the spacious hall on the upper floor.

Speakers of international repute on road questions have consented to address the meetings, and a large representation of delegates of public authorities is anticipated.

It is announced that the intention is to make the papers short and simple in language and to secure the widest possible discussion among the delegates. Most conferences fail in this respect and inflict long papers and speeches from the platform without allowing time for general discussion.

The fact that the city of Ottawa is interested in a project to build a new highway between Ottawa and Prescott will give the city a special interest in the congress. There is urgent need for improvement of highways in Canada. Good communication by road is essential to progress and economic development of our social and industrial life. Before improvement can be made more has to be done to promote education of public opinion and to increase knowledge of road building and road planning. This is the function of the Dominion Good Roads Congress. All who are interested in questions relating to good roads are invited to send delegates, particularly those who are members of municipal councils.

TOWN PLANNING IN EDINBURGH

TORONTO has been described as the Edinburgh of Canada, but in one respect, there is no comparison, since a large part of Edinburgh had the advantage of being built to a plan.

Edinburgh is one of the few cities in the world which have been definitely planned on a large scale, the plan being projected in the latter end of the reign of Charles II and carried out in the early years of the reign of George III. The idea was first suggested when James VII was resident at Holyrood as Duke of Albany.



FIG. 1.—PLAN OF AREA EAST OF LEITH WALK, EDINBURGH

This is a portion of the plan of Edinburgh as it was in 1842, showing the scheme prepared by Playfair, one of the architects of the beginning of the nineteenth century. This plan seems to have been adopted by the City Council in preference to any of the other competitive plans, but the scheme was never carried out in its entirety.



FIG. 2.—This shows the area comprised in Fig. 1, as actually developed. Note how the advent of the railway has resulted in a complete departure from Playfair's scheme. Apparently no attempt has been made to rearrange the plan, or to have a new plan prepared, since the construction of the railway.

In a paper written by Lord Erskine in 1728 the first suggestion was made for constructing the north bridge and laying out the land which is now occupied by Princes street and other parts of the new Edinburgh. Lord Erskine speaks of making "fine avenues to the town and outlets for airing and walking by the bridges."

The plan of the new Edinburgh was prepared by James Craig in 1767. At first it was difficult to induce people to build on Princes Street, which was regarded as too sequestered and cut off from the ancient city. A premium of \$100 was offered by the magistrates to the person who would build the first house.

By 1790 the new town began to grow rapidly and further plans had to be prepared. Part of the plan included the preservation of the site

of an old loch, called Nor' Loch, at the foot of the Castle, as the Princes Street Gardens.

There were people, however, in Edinburgh who actually proposed, in 1774, to erect buildings on the south side of Princes street. This was interdicted by the court of session after an appeal to the House of Lords. The people who have spoiled the lake and river fronts of Canadian cities, should have had a higher authority to save them for themselves.

Although Edinburgh has gained greatly from having had a definite plan, it must be admitted that the criticism of Robert Louis Stevenson, with regard to Craig's original design, as being faulty and shortsighted, was justified. Much of the planning that has since taken place in Edinburgh, although not executed, has been superior to that of Craig's. The fact, however, that Princes Street Gardens were reserved, and that so much fine architectural work was done in the city by Adam, Playfair and others, has given a charm to the city in spite of any defects of the plan.

In 1817 there were published four competitive plans for laying out suburbs of Edinburgh adjoining Calton Hill. The plan which appears to have won the competition was prepared by W. H. Playfair, who collaborated with Adam in designing the University.

Up to 1842 the town council of Edinburgh appears to have been guided in its planning by the best architects in the city. The advent of the railways, however, resulted in a complete departure from the plans which had then been prepared, and from that time up till recent years Edinburgh has grown without any definite plan.

Since the passing of the Town Planning Act of 1909, town planning has again been taken up by the city of Edinburgh.

Mr. A. H. Campbell, M. Inst. C. E., city engineer of Edinburgh, reports that considerable progress is being made in regard to town planning work in the city notwithstanding the "almost compelling obsession" of the war.

The schemes being prepared by the city of Edinburgh deal with 3,166 acres, of which 2,530 acres are within the city and 636 acres are in the county of Midlothian.

Mr. Campbell says that at a recent enquiry into an application by the town council for the preparation of a scheme of town planning for the southeastern suburbs of the city there was considerable objection to the inclusion in the scheme of part of the county area. He advocates that the elaborate form and machinery at the preliminary stages should be less discouraging and that in Canada an effort should be made to simplify the procedure during the preliminary stages as much as possible.

In the following table particulars are given of the six schemes being prepared. It will be observed that one column is headed "Date of application to L. G. B. and sterilization of area." The initials "L.G.B." relate to the Local Government Board of Scotland which deals with local government affairs and is quite independent of the Local Government Board of England. The date in this column has an important bearing on the work of town planning. Subsequent to this date no owner can claim compensation in respect of buildings erected or works constructed in the area if these are such as to contravene the *proposed* scheme. This means that the Town Planning committee has complete control of the area and that no "manufactured" claims for compensation can be made while the

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Numerical order and Name of scheme	Contents (acres)	Area within city (acres)	Area outside city (acres)	Date of application to L.G.B. and sterilization of area	Date of sanction by L.G.B., to prepare scheme	Position of scheme as at January, 1917
1—Bellevue.....	36	36	Nil	Aug. 6, 1912...	Nov. 14, 1912...	Print of scheme has been prepared and has now been submitted to the owners, with a view to interviews being arranged.
2—Craigentinny..	896	770	126	June 26, 1912..	Oct. 17, 1913...	Draft scheme has now been prepared and submitted to owners preliminary to conference with them for adjustment of points.
3—Fountainbridge	4¼	4¼	Nil	July 1, 1913...	Oct. 8, 1913....	Draft scheme is now completed and has now been in the hands of the L.G.B. for a considerable time, adjustments have been made between the officers of the Board and the corporation; and the enquiry for confirmation is now being awaited.
4—Murrayfield and Ravelston	530	440	90	May 26, 1914..	Jan. 12, 1915..	Permission granted by L.G.B., to prepare a scheme, which is in course of preparation.
5—Abercorn, Duddingston and Niddrie.	1,700	1,280	420	April 29, 1915..	.....	L. G. B. enquiry (extending over 2 days) has now been held and the Board will consider and report in due course.
Total.....	3,166	2,530	636	.....	.....
6—Corstorphine..	910	.....	.....	.....	March, 1913...	Preparation of a scheme by the county has been sanctioned, and is being prepared by the county in consultation with the city. C. E. has had three meetings with county representatives, and has forwarded his plan of arterial bye-pass road to county councils engineer. The county reports that the preparation of the scheme has been suspended during the war.

A. HORSBURGH CAMPBELL, M. Inst. C.E.,
Engineer.

REMARKS BY ENGINEER:

SCHEME No. 1.—It is desirable that the further stages in the completion of the making of this scheme be advanced.
SCHEME No. 2.—It is desirable that the further stages in the completion of the making of this scheme be advanced.

SCHEME No. 3.—The L. G. B. should be asked to fix a date for the final enquiry into this scheme with a view to confirmation.
SCHEME No. 4.—Although the county appears to have deferred the progress of this scheme "for the duration of war" much useful and inexpensive work might be done by way of developing the drafts of intended scheme and adjusting differences of parties during the war.

scheme is in course of preparation. It transfers the initiative in regard to land development from the owner to the city. That is what is meant by "sterilization of area."

It will be seen that it takes a considerable length of time to prepare a town planning scheme, but it must be borne in mind that, once it is prepared, it represents what *has* to be done and not what *should* be done. It has therefore to be complete, accurate and reasonable in its form and financially sound and practical. It is an entirely different thing from preparing a tentative report. The real work of preparing a British town planning scheme begins at the point where most American town planning reports end.

THE NEED FOR A TOWN PLANNING AND DEVELOPMENT ACT IN ONTARIO

DURING the past two years conferences and meetings representing almost every part of the older portion of Ontario and every large town have passed unanimous resolutions in favour of town planning legislation. No part of the country has made a greater call on the services of the Town Planning Branch of the Commission of Conservation. Outside of the meetings of the Civic Improvement League and one meeting in Toronto, the initiative in calling the local conferences has come from local organizations. In no province in Canada has there been a more emphatic and widespread demand for legislation. The Town Planning Acts in the other provinces were first promoted by a few interested parties or private members, who, with little difficulty, persuaded the governments of the enormous advantage of town planning.

In Ontario the demand has come from representative organizations in all the populated parts, including City Councils and Boards of Trade in every large centre. The Associated Boards of Trade has unanimously adopted a resolution in favor of the draft Act of the Commission of Conservation.

As to the need for town planning in Ontario, we have only to look at the unhealthy and haphazard suburban development around the edges of most Ontario cities to see how urgent it is. With all the advance in public health administration, there are bad housing conditions in Ontario cities and suburbs which, to say the least, are as bad as in any province; conditions which are being created today, and are worse, from a sanitary point of view, than anything that would have been permitted in England for thirty years past. Such conditions could be prevented by proper town planning and development schemes, if the legislation existed to enable them to be prepared.

DEPUTATION TO THE GOVERNMENT

On Friday, February 9th, a representative deputation, appointed by the South-west Ontario Town Planning Conference, had an interview with the Premier, the Honourable Sir W. H. Hearst, and the Provincial Secretary, the Honourable W. D. McPherson, and asked for government legislation to deal with town planning and to provide for the

creation of a Department of Municipal Affairs. The government has decided to legislate in regard to both matters during the current session. Draft acts have been framed and introduced in the assembly.

The following resolution was conveyed to the Premier by the deputation:

Town Planning Resolution

Whereas, there is need for action being taken by the municipalities of Ontario to secure better regulation of the use and development of land, so as to promote convenience for traffic, improved conditions for carrying on industries, better sanitary conditions and protection against nuisances and the destruction of natural beauty.

And whereas, the need for economy and for the conservation of the public health at the present time makes it urgent that this action be taken in the near future.

And, whereas, it is essential to secure such action that increased powers be conferred on municipalities to enable them to prepare town planning schemes for their areas.

It is hereby resolved, that the Ontario Government be memorialized to take into consideration the Draft Town Planning Act of the Commission of Conservation, with a view to its passage into law in such revised form as may be approved after investigation.

Mr. G. E. Main, president of the conference; W. Geo. Copley, chairman of the Legislation Committee, and Mr. Thomas Adams, Town Planning Adviser to the Commission of Conservation, spoke to the resolution. The Premier was entirely sympathetic, but stated that he would like to know more clearly in what respects the existing law did not give adequate powers to deal with town planning. Since the conference the following memorandum on the subject of the new powers which would be conferred by the proposed Town Planning and Development Act has been sent to the Premier and the Provincial Secretary:

MEMORANDUM REGARDING PROPOSED ACT

It would require a careful and lengthy study of the municipal law of Ontario to discover the precise powers which are conferred on municipalities to deal with matters which are proposed to be dealt with in planning and development schemes.

One difficulty in connection with the present law is that the municipalities themselves do not appear to know what they can do in regard to several matters, and in other cases they are unable to use the powers because of the complicated procedure involved.

Apart from the *new* powers which a Planning and Development Act would confer it is essential, to the preparation of a proper scheme, that many matters which are now dealt with in the Municipal Act, in a more round-about and piecemeal way, should be dealt with as part of a scheme. To exclude these matters from the scheme because the local authority had already power to deal with them in some other more cumbersome way would be to ignore the main object of preparing schemes. That object is to deal simultaneously and comprehensively with the inter-

dependent parts of urban and rural development in one general scheme instead of leaving the matter to be dealt with in the present haphazard way.

For instance, it may be claimed that a local authority has power to approve each sub-division of land, and that to give the power to do this in a general way for the whole city area would not be conferring a new power on the authority. What happens in practice in such cases is that the authority has to approve each separate sub-division, as it is prepared by the owner, without relation to the surrounding sub-divisions which come before it at different times,—in many cases after long intervals. The authority only sees the errors which might have been avoided when too late, *i.e.*, after a district is sub-divided and the different pieces of the sub-division puzzle are fitted into each other.

The Town Planning and Development Act recognizes that the initiative to determine the main lines of development at least should come from the authority, and that it should be responsible for securing co-operation between different owners and between owners and itself. No existing law does so.

It has been suggested that it would be somewhat of an interference with local autonomy to require that when a scheme was prepared and approved its details could not be altered until the consent of the Government was obtained. On the other hand, there are at present a great many matters in which a more arbitrary power than this is vested in the provincial government in authorizing by-laws and in dealing with public health matters without even giving a local authority the discretion to act for itself.

In town planning the authority need not prepare a scheme at all unless it wishes. The only requirement is that when it does prepare it the Government expects that it will adhere to its own proposals until it shows good reason to alter them.

SUMMARY OF POWERS CONFERRED BY PROPOSED ACT

A summary of some matters which should be dealt with in the proposed Town Planning and Development Act are given in the left-hand column below and in the right-hand column reference is made to existing conditions:

ADMINISTRATION

(1) Director of Planning and Development to be appointed.	No skilled officer exists at present.
(2) A Local Authority to appoint a planning board to give whole attention to future development.	No such body exists.
(3) Local engineer required, to have responsibility to plan for future.	No provision, and engineers do not have this responsibility.

NEW STREETS AND SUB-DIVISIONS

(1) Act should require approval by local board of streets and sub-divisions of all lands to be sub-divided or sold by metes or bounds, description, or otherwise, and should centralize such approval in connection with unorganized territory in the Planning expert of the Government.	Powers are granted to authorities to approve sub-divisions as submitted to them but not to initiate proposals for comprehensive planning and bring the owners into line with the public scheme.
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(2) Approval of the plan of a part of an owner's land may be refused unless he submits a plan for the whole, as an indication of his intentions.

Power does not appear to exist in respect of this matter.

MAIN THOROUGHFARES

(1) One principle of the Act should be to centralize the determination of the lines of main thoroughfares in the provincial government, and to get the local authority to work in with the provincial plan. When they prepare their local schemes in this way questions of width of street can be considered so as to secure wide main arteries where needed and to permit complementary narrow streets where these are sufficient. It has been proved in practice that unless the local authority deliberately prepares a scheme it does not give sufficient attention to these matters until it is too late to get satisfactory width and alignment for their main thoroughfares.

The present law is too rigid and practically means that all streets are made 66 ft. wide, other than the few which are made of lesser width by the permission of the Railway and Municipal Board. There is no scientific principle adopted in the Province for fixing widths according to traffic needs and for reducing widths in residential areas to suit a low density of building. Tremendous waste and inefficiency results from bad street design.

ALTERATION OF BOUNDARIES

Boundaries of private property to be altered or adjusted to suit the scheme under certain conditions.

No power?

CO-OPERATION BETWEEN ADJACENT MUNICIPALITIES

The Act to provide for effective co-operation between adjacent municipalities in regard to control of highways, sanitary and general planning. Some of the worst and more unhealthy forms of housing development in Canada are taking place in Ontario just over the boundaries of cities and towns. The Act provides effective control of this matter.

If the existing law provides for this control and co-operation it is entirely inoperative. Cities and towns of over 50,000 can control certain development within five miles of their area, but this has not proved of much effect in practice except to prevent certain evils in connection with the lay-out of streets. It does not touch sanitary conditions.

CO-OPERATION WITH OWNERS

The Act to require that the provincial department will prepare procedure regulations and that provision shall be made therein for securing co-operation with owners of land at every stage.

This keynote of co-operation through the whole Act is not provided for to any extent in the existing law.

PREVENTION OF SPECULATION ON PUBLIC IMPROVEMENTS

The Act to provide that when an authority desires to prepare a scheme and makes application no owner or other party can do anything, in the area included, to contravene the scheme; and power to be given to remove and pull down building erected which is contrary to the provisions of the scheme.

There is no corresponding power.

COMPENSATION

(1) In addition to the ordinary provisions for compensation for injury provision to be made that the local authority can claim half of any increased value which is given to property by the making or operation of the scheme.

No provision.

(2) The following sub-section is perhaps the most important in the Act, and without it an Act would be of comparatively little value:

"Property shall not be deemed to be injuriously affected by reason of the making of any provisions inserted in by-laws or a scheme, which, with a view to securing the amenity of the area affected by the by-laws or the scheme, or any part thereof, or proper hygienic conditions in connection with the buildings to be erected thereon, prescribe the space about buildings, or the percentage of any lot which may be covered with buildings, or limit the number of buildings to be erected, or prescribe the height, character or use of buildings, and which the Department, having regard to the nature and situation of the land affected by the by-laws or provisions, consider reasonable for the purpose of amenity and proper hygienic conditions."

The municipal laws of the Province give certain powers to the Provincial Board of Health to require certain sanitary standards, and give to the local authorities powers to pass by-laws fixing heights of buildings, building lines, etc., but the procedure involves detached consideration of what are inter-dependent questions and leaves a great many openings for claims of compensation.

Under the provision in the Act quoted in the opposite column a comprehensive scheme could be prepared which would enable a local authority to get all the advantages of air space and amenity without cost, except cost of preparation of scheme. The existing law does not make any allowance for protecting the amenity of any area, although in Great Britain, the United States and other Canadian provinces such laws exist.

FIXING ZONES FOR DIFFERENT PURPOSES

The Act should enable a local authority to fix manufacturing, residential and other kinds of zones in a city or town similar to what is being done in Britain, Sweden, Germany, the United States, and other countries, by schemes prepared for large city and suburban areas. In fixing such zones it is essential to consider at the same time the character and width of streets so that the relationship between the street system and the heights and density of building can be properly regulated. Most of the important matters dealt with in the Act are proposed to be considered for the first time in the Province as having some relation to one another, and it is this new principle which is so important to establish if waste and unhealthy conditions are to be avoided.

The Town Engineer of Welland reported in May, 1916, that 90 per cent of the owners in the district were desirous of establishing it as a residential section. They applied to the Council to have this done, and the Town Clerk and Town Solicitor stated that it could not be so established unless petitions were prepared for each separate street, of which there were thirty in number. But the fixing of residential districts without at the same time fixing the width of streets according to the density of building to be permitted, and several other relative matters cannot be satisfactory. Moreover, when residential districts are fixed it is important to provide for other districts in which any kind of building is optional or in which manufacturing would be permitted. To deal with such a matter in a piecemeal way would be unjust and because it would be unjust it would be ineffective.

PROTECTION OF AMENITIES

Control or erection of bill-boards, the protection of trees, river banks, and the securing (by mutual arrangement) of areas of land for open space are important matters which can be dealt with under an Act; and if a provision is inserted in a scheme with a view to securing "amenity" (and of course does not involve acquisition of property), and if such a provision is considered reasonable there will be no claim for compensation, even if it involves some restriction of the use of the land.

There is no such word as "amenity" in an Ontario Act, although it is now recognized in the law in England and other provinces in Canada. In the United States the Courts are now upholding cities and towns in protecting their amenities under the police power, and in refusing to pay compensation for reasonable restriction of the use of land in the interests of the public welfare.

The above summary indicates generally the change which a Town Planning Act would make in regard to giving the local authorities an entirely new outlook on the question of their future development. The very fact that they would have the power to think out plans for the future, that they would be able to do this without running the risk of having to pay compensation for anything but *bona fide* injuries to property, that they would be able to take into consideration all the relative parts of development, the building, the size of lot, the street, the ravine, etc., would make them consider problems which have been ingored in the past to the injury of most urban communities. This is no mere theory—it has been proved in connection with the development of schemes in other countries.

HOUSING, TOWN PLANNING AND CIVIC IMPROVEMENT IN CANADA

SECOND ANNUAL CONFERENCE OF CIVIC IMPROVEMENT LEAGUE OF CANADA

THE second annual conference of the Civic Improvement League of Canada will be held this year at Winnipeg. The meeting will take place in the lecture room of the Industrial Bureau on Monday, Tuesday and Wednesday, the 28th, 29th and 30th of May. Sir John Willison will preside and delegates are expected from all the nine provinces.

At the time of writing the programme is under consideration. The intention is to have three main sessions, and to concentrate attention chiefly on the question of having a scientific and sound economic basis for the future development of social and industrial life in town and country after the war. Consideration will be given to such questions as the settlement of returned soldiers, conservation of life, economy and efficiency in connection with the development of land, rural population and production, land speculation and town planning, etc.

The following organizations are co-operating with the Civic Improvement League of Winnipeg in arranging for the conference: The Citizens' League, Winnipeg Board of Trade, Retail Merchants' Association, Rotary Club, Manitoba Association of Architects, Winnipeg Printers' Board of Trade.

The annual meeting of the National Council of Women of Canada will be held in Winnipeg, in May, and it is proposed that the Council and the League should co-operate and arrange for one joint session.

The preliminary programme of the conference will be issued about the end of March. Copies will be sent to all who are sufficiently interested to make application for them.

MEETING OF DOMINION COUNCIL

A meeting of the Dominion Council of the Civic Improvement League was held in the offices of the Commission of Conservation on Thursday, the 18th of January last. Dr. J. W. Robertson presided in the absence of Sir John Willison, president.

It was decided to accept the invitation of the Winnipeg Civic Improvement League and other co-operating associations to hold the next annual conference of the Dominion League in Winnipeg. The invitation was extended by Mr. W. Sanford Evans, ex-mayor of Winnipeg, on behalf of Mr. G. W. Markle, president of the Winnipeg League. Suggestions were made with regard to the programme, and it was decided to request the local committee to consider the following subjects for discussion at the conference: Fire prevention, municipal abattoirs, garbage disposal, social centres, clean-up weeks, advantages of rural life, suburban development, and municipal and vital statistics. A committee was appointed to draw up a programme and make arrangements for the conference, consisting of Sir John Willison, Toronto; Mr. W. Sanford Evans, Ottawa; Mrs. Adam Shortt, Ottawa; Mr. G. Frank Beer, Toronto; Mr. G. W. Markle, Winnipeg, and Dr. Wm. H. Atherton, Montreal.

In the report which was presented to the meeting regarding the progress of the Civic Improvement League during the year it was shown that a great deal of work had been done and that a satisfactory advance had been made in all the nine provinces, having regard to present conditions. Reports of this progress have appeared from time to time in CONSERVATION OF LIFE.

On the evening preceding the meeting of the Dominion Council a meeting of the Ottawa Civic Improvement League was held to receive a report on the progress of civic improvement in Ottawa. The Hon. Sydney Fisher, president of the League, occupied the chair.

PROVINCIAL AND MUNICIPAL PROGRESS

New Leagues continue to be formed and active work is being done in most of the provinces. Brief reports of local progress are requested to be sent to the Commission of Conservation to be included in the next issue of CONSERVATION OF LIFE.

DEPARTMENT OF MUNICIPAL AFFAIRS FOR ONTARIO

THE Ontario Government is to be congratulated on its decision to form a department or bureau of municipal affairs, and also on the prompt action which has followed that decision. The Bill which has been introduced for the purpose of creating the department does not go so far as those who have advocated its creation would have liked, but it is in the right direction and is a forward step in regard to municipal administration in Ontario.

The need for such a department has been brought to the attention of the government by several representative bodies during the past year. The reasons advanced for its creation were set out in a memorial presented to the Premier on the 9th February last by a delegation from the Southwestern Ontario Town Planning Conference and the Associated Boards of Trade.

The memorial expressed appreciation of the work already done by the Railway and Municipal Boards, the Provincial Board of Health, the Municipal Committee of the Legislature and other bodies, but urged the need of greater co-ordination and the bringing of existing municipal officials into closer co-operation.

The memorialists asked the Government either to appoint a Commission to prepare legislation or preferably to set up a department for general oversight of municipal affairs. Such a department should consist of a Minister and a small staff to whom could be assigned such duties as:

- (1) Giving advice to local authorities and drawing up model regulations and forms.
- (2) Studying the municipal law and administration of the province with a view to advising the Government from time to time regarding desirable changes.
- (3) Supplemènting the work of existing boards and officials.
- (4) Undertaking any new duties of a municipal character which might be required to be administered by the Provincial Government under new legislation.

THE PROPOSED ACT

The Bill introduced on February 20th, by the Honourable W. D. McPherson, Provincial Secretary, is printed below:

B I L L

An Act to establish the Bureau of Municipal Affairs.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:—

1. This Act may be cited as *The Bureau of Municipal Affairs Act*.
2. In this Act,
 - (a) "Bureau" shall mean The Bureau of Municipal Affairs established under the provisions of this Act.
 - (b) "Director" shall mean the Director of the Bureau.
3. There is hereby established a branch of the Public Service of Ontario to be known as "*The Bureau of Municipal Affairs*."
4. The Bureau shall be attached to such one of the departments of the Public Service as may be designated by the Lieutenant-Governor in Council, and shall be under the direction and control of the Minister in charge of that department.
5. The Lieutenant-Governor in Council may appoint an officer to be known as the Director of the Bureau of Municipal Affairs, and such engineers, inspectors, auditors, officers, clerks and servants as may be deemed advisable.
6. The Director for the purposes of *The Public Service Act* and *The Audit Act* shall rank as the deputy head of a department and in respect to matters assigned to the Bureau shall exercise and perform the powers and duties of the deputy head of a department.
7. The Director, acting under the direction of the Minister, shall preside over the Bureau and shall perform such other duties as may be assigned to him by the Lieutenant-Governor in Council or by the Minister.

8. Wherever by any Act of this Legislature an officer engaged in the administration of the law relating to any of the matters assigned to the Branch by this Act is directed to report to the Minister, the report shall, unless the Minister otherwise requires, be made to the Director, and every such officer shall act under and obey the directions of the Director.

9.—(1) There shall be assigned to the Bureau the administration of *The Municipal and School Accounts Audit Act*.

(2) The Provincial Municipal Auditor shall be an officer of the Bureau.

(3) The offices of the Drainage Referee and of the Official Arbitrator, appointed under the provisions of *The Municipal Arbitrations Act*, shall be attached to the Bureau.

(4) All returns required by any Act to be made to the Secretary of the Bureau of Industries by any municipal officer shall hereafter be made to the Director.

10.—(1) The Bureau shall superintend the system of book-keeping and keeping accounts of the assets, liabilities, revenue and expenditure of all public utilities as defined by *The Public Utilities Act* which are operated by or under the control of a municipal corporation or a municipal commission, and may require from any such municipal corporation or commission such returns and statements as to the Bureau may seem proper, and may extract from such returns and statements such information as, in the opinion of the Bureau, may be useful for publication, and may embody such portions of such returns and statements in the annual report of the Bureau as to it may seem proper.

(2) A municipal corporation or commission which refuses or neglects to comply with the provisions of this section shall incur a penalty not exceeding one hundred dollars for every week it may be in default, recoverable under *The Ontario Summary Convictions Act*, and in addition the Bureau may authorize an auditor to secure such returns and statements at the expense of the municipal corporation or commission.

(3) This section shall not apply to a municipal corporation or commission which operates or controls a public utility for the development or distribution of electrical power or energy.

11. It shall be the duty of the Bureau

- (a) To issue from time to time and send to the clerk of every municipality bulletins dealing with the administration of each branch of municipal affairs in order to secure uniformity, efficiency and economy in such administration;
- (b) Collect such statistical and other information respecting the affairs of municipal corporations in Ontario as may be deemed necessary or expedient from time to time;
- (c) Enquire into, consider and report upon the operation of laws in force in other provinces of the Dominion and in Great Britain and in any foreign country having for their object the more efficient government and administration of the affairs of municipal corporations, and make such recommendations and suggestions thereon as may be deemed advisable;
- (d) Consider and report when requested by the Minister upon any petition for or suggestion of a change in the laws of Ontario relating to the powers and duties of municipal corporations;
- (e) Prepare and transmit to the Lieutenant-Governor in Council annually a report upon the work of the Bureau during the preceding year, together with such statistics and other information as may have been collected in the Bureau.
- (f) Perform such other duties as may from time to time be assigned to it by the Lieutenant-Governor in Council.

12. Nothing in this Act shall affect any of the powers conferred by any Act on The Hydro-Electric Power Commission of Ontario, The Ontario Railway and Municipal Board, The Provincial Board of Health, or any functionary, body or officer, and if any matter affecting any such powers comes to the Bureau it shall be transferred to the proper functionary, body or officer to be dealt with.

13. Subsection 2 of section 40 of *The Public Utilities Act* is repealed and the following substituted therefor:—

- (2) Subsection 1 shall be subject to section 10 of *The Bureau of Municipal Affairs Act*.



"OF all forms of productive capacity there is none more vital, indispensable and steadying than the application of human industry to the cultivation of the soil. And if there is one point at which order seems beginning to emerge from the present confusion of our political and social aims it is precisely with regard to this fundamental necessity of making a better use of the greatest of all natural resources."—Viscount Milner.

CONSERVATION OF LIFE

Public Health, Housing
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THE MODERN CONCEPTION OF PUBLIC HEALTH ADMINISTRATION

BY CHAS. J. HASTINGS, M.D., L.R.C.P.I.,
Medical Officer of Health, Toronto

FIRST ARTICLE

WHILE there is an element of interest in connection with the history of public health administration, the development of preventive medicine has been so slow and the consequent sacrifice of human life so great that, when we glance over the public health fields of the past, we see them densely studded with tombstones and monuments marking the graves of those whose lives have been sacrificed in the struggle with preventable diseases. It is true that for centuries some effort has been made along the lines of hygiene and sanitation. Under the Mosaic dispensation, provisions were made for the careful selection and preparation of foods; the segregation of those sick with communicable diseases; home sanitation and personal hygiene. Preventive medicine among the Greeks took more the form of physical culture, while the Romans had due regard for their sewage disposal and pure water supplies, as was manifested by the Cloaca Maxima and the aqueducts, both of which are still in use, though constructed B.C. Health physicians were appointed in Rome, about 495 B.C., to look after the public health in the districts assigned them. These were probably the first medical officers of health on record. The first health officer in the British Empire was not appointed until 1847.

I presume there never was a time in the history of the world in which human life and human efficiency were held at as high a premium as at the present. Every nation, in time of war especially, expects every man to do his duty, but whether or not they will be in a physical condition to do their duty, depends in a great measure on whether or not that nation has done its duty by them in early childhood. In glancing over the history of the past, one is impressed by the fact that nothing but a calamity or impending calamity will arouse mankind, individually or collectively, to a sense of their duty to their fellow men. Every nation engaged in the present conflict has had this forcibly impressed on it by the appalling number that had to be rejected as unfit for military service.

THE SUPERSTITIONS OF EARLY TIMES

Preventive medicine received a lamentable setback in the early part of the Christian era due to the superstitions and doctrinal delusions

that disease and pestilence were the result of a visitation of divine wrath, in consequence of which their energies were diverted from sanitation and preventive measures generally to the building of hospitals and other provisions for the care of the sick, so that even in the mediæval ages the general unsanitary conditions of London were a reflection on the intelligence of her people. It was no doubt this that Ruskin had in mind when, years ago, in referring to public health administration, he said "Any interference which tends to reform and protect the health of the masses is viewed by them as an unwarranted interference with their vested rights in inevitable disease and death." One naturally sympathizes with people so primitive and so superstitious, but, after a brief investigation into present day methods of public health administration, we might with advantage conserve some of our sympathies until we have, in the light of present knowledge, analysed more carefully present methods of public health administration, and then decide how far we are removed from those superstitions—what advances we have made.

ECONOMIC IMPORTANCE OF CONSERVATION OF LIFE

Preventive medicine has dragged its slow length along down through the centuries until the discovery and acceptance of the germ origin of disease. Governments are annually spending tens of thousands in the conservation of forests, mines, fisheries and various other industries, and advisedly so, but while doing this why not devote a proportionate amount at least to the conserving of the men and women for whose benefit these other conservation efforts are made. The great difficulty in the past has been the absence of monetary value placed on human life. A deputation waited upon the United States Congress a few years ago endeavoring to obtain financial assistance for the prevention of the spread of communicable diseases. A member of Congress informed them, in terms of sarcasm and disgust with his government, that they would have to have an epidemic that would kill off about 40,000 of their citizens before they could hope to get help from the government. One reason why advances in preventive medicine have been so slow in that prevention lacks dramatic interest. It lacks those tragic characteristics which always appeal to the masses.

In the United States and Canada there has been an awakening, but, although all have been more or less aroused, great masses are still sitting massaging their heads. It is gratifying, nevertheless, to know that they are awake, and while there is evidence that through the mist and haze they can see the grey dawn of the health age, yet there are lingering somewhere in their grey matter remnants of the deep impressions of the not far distant past when sickness and death were looked upon as a dispensation of Providence.

"New conditions teach new duties,
Time makes ancient forms uncouth."

Rarely does one find a more fitting application for those lines of Lowell than in the solution of the problems of preventive medicine, in the light of our present knowledge of the cause of communicable and preventable diseases and the means by which they are transmitted from one person to another.

On this continent exponents of preventive medicine have recognized the handwriting on the wall and are looking and hoping for a national organization of health, in order that we may efficiently accomplish in the future that which we have in a sense only been touching the fringe of in the past. But this cannot be accomplished without the expenditure of large sums of money and, in order to obtain this money, we must be in a position to show that the expenditure is warranted. Gladstone once said:—"In the health of the people lies the strength of the nation." It is a recognized fact that on the efficient solution of the problems of public health depends the comfort and prosperity of our people and the future greatness of our nations. But, unfortunately, our civilization has not sufficiently advanced for us to appeal for this on humane grounds alone, therefore, we have to present the economic side of the problem in cold figures of dollars and cents. For this purpose probably the most valuable and most reliable records we have are contained in the *Report of the Committee of One Hundred on National Health*, dealing with the national vitality and setting forth its waste and conservation, as prepared by Prof. Irving Fisher, of Yale. From this report we learn that there are 3,000,000 persons in the United States at all times suffering from some form of sickness (equal to approximately 300,000 in Canada), of whom about 1,100,000 are in the working period of life, three-quarters being actual workers, who must lose at least \$700 per year, making an aggregate loss from illness of \$550,000,000. The expense of medicine, medical attendance, extra foods, etc., would equal this amount, thus we have the total cost of illness as approximately \$1,100,000,000, of which it is assumed that at least one-half is preventable. The annual loss from preventable deaths has been conservatively estimated at \$1,100,000,000. If to this we add the \$550,000,000 loss from preventable sickness, we have a total of \$1,650,000,000 as the approximate annual monetary loss to these two nations from preventable sickness and death, and these figures are considered by practical and reliable authorities as extremely conservative. Furthermore, no attempt is made here at estimating the loss from the after effects of many of these diseases, that oftentimes handicap the victim for the balance of his life. No attempt is made to estimate what this enormous amount means in human blood, in agony, pain, sorrow and tears; nor to assess the loss to the children that are left fatherless and motherless. As Prof. Fisher expresses it, "Poverty and disease are twin evils, and each plays into the hands of the other, and from each or both spring vice and crime."

Of the 690,000 who die annually in Canada and the United States from preventable disease, a fitting epitaph for a large percentage would be—"Poisoned by sewage-polluted water"; for a still larger percentage the "Poisoned by milk," and for a still greater number "Victims of the white plague" resulting from poverty and ignorance.

Of the \$1,650,000,000 loss to these nations, over \$250,000,000 are expended on medical attendance and medicine in endeavoring to cure diseases that never should have occurred. The United States and Canada are squandering \$200,000,000 annually on patent medicines, and less than \$5,000,000 on public health and prevention of disease—they are only tinkering with the problem. I venture to say, without fear of contradiction, that, if the amount of money spent in the attempt to cure diseases that should never have occurred, plus the amount spent annually

on patent medicines, was spent in the organization and administration of a national army of health, in less than one decade preventable diseases would be prevented.

These are hard facts, referring only to the monetary loss. They are black clouds, but it is gratifying to see evidences of clearing all around the horizon, revealing the dawn of the health era, when the money that is now being squandered in endeavoring to cure diseases that never should have occurred will be spent on their prevention. Pasteur assured us years ago that it is within the power of man to rid himself of every parasitic disease. This can only be hoped for by means of efficient appropriation, efficient organization and efficient administration. In an address before the British Medical Association some seven or eight years ago, Sir James Barr stated that if the people were but alive to their own interests they would pay medical men more liberally for directing them in the paths of truths and in the way of health, rather than for treating them for diseases which, if properly guided, they would never have had. If the money now spent for treatment of disease was directed to the preservation of health, our hospitals and almshouses would not be half filled; and, I may add, our empty isolation hospitals would stand as monuments to the national somnolence of the past.

SUGGESTED READJUSTMENT OF DUTIES OF PUBLIC HEALTH DEPARTMENTS

It is fitting, however, that, while waiting and working for that altruism—a national health organization—we examine our methods of health administration, and in doing so, we will find we have been doing things in the past which we might well have left undone, and, by careful elimination, we may relieve our departments of much expenditure that can be used to better advantage along other lines of action. This is imperative, in view of the fact that the inadequacy of public health work in many states, provinces and cities is due to inadequate appropriations, a large portion of which is often expended on what might better be termed the æsthetic side of public health work, and which has little or no direct bearing on the cause or prevention of disease. For instance, many departments of health are burdened with street cleaning, garbage collection and disposal, plumbing and drain inspection, sewage disposal and water purification.

THE BASIS OF SCIENTIFIC HEALTH WORK

The first advance made in scientific public health work was based on the germ origin of disease, and a still further advance has been brought about by a more accurate knowledge of the sources and modes of infection. It is now pretty generally conceded by laboratory workers that disease-producing germs do not live long outside of the body, especially if dried and exposed to the air and sunshine, and even those that survive become so attenuated as to constitute a minor source of danger. It will take some time, however, to eradicate the erroneous conception of the causes of disease, and how diseases are contracted. No health authority at the present time thinks for a moment that diphtheria, scarlet fever, measles, whooping-cough or typhoid fever are contracted from street dusts, nor are any of our communicable diseases likely to be traced directly to the conditions of our streets. It was thought at one time that

poleo-myelitis was contracted from dust, but this is now a disputed question.

There is, however, an element of danger from dust that cannot be ignored by the sanitarian, and that is the irritation produced in the mucous membrane of the nose and throat by particles of grit in the dust inhaled. For instance, it is now generally known that a certain percentage of the citizens in every community are carrying the germs of diphtheria, pneumonia, influenza, and, no doubt scarlet fever and other communicable diseases in their mouths, noses and throats. Nature has provided a mucous membrane which, when healthy and unbroken, is a protection against these invading germs. However, the irritation or breaking of this protection by particles of grit may open up channels for infection. Thus it is more likely that the infection that occurs, which seems traceable to dust, is due rather to the germs already existing in our respiratory tract, and against which we were properly protected until the channels of infection were opened by the irritation produced by the inhalation of dust.

To what extent tuberculosis is carried by dust, if at all, is not known. However, the division of tuberculosis of any well organized department of health, by rounding up the active and advanced cases, and seeing that they are properly quarantined and educated as regards the dangers from expectoration, is the efficient and economical means for eliminating this danger.

I do not wish to be misunderstood, however, as minimizing the importance of a proper system of street cleaning. In my judgment, it is the duty of every municipality to keep its streets clean and as free from dust as possible, in the interests of the comfort and convenience of the citizens; but the department of health should not be burdened with this expense or its administration. The same is true of garbage collection and disposal. Practically the only bearing that garbage has on public health is that it affords a breeding place for flies; but for comfort and convenience, and the moral effect from the standpoint of cleanliness, it must be properly cared for—but not by the department of health. The same applies in a great measure to plumbing and drain inspection. Here, however, we have a much greater and more firmly fixed popular prejudice to overcome. Occasionally one gets a report, even from the old family physician, where two or three cases of scarlet fever, diphtheria, or typhoid fever occur in the same house, that the department had better have a smoke test put on, as sewer gas is probably responsible for the cases.

INCONSISTENCY IN PUBLIC HEALTH WORK

In this connection, one of the most glaring inconsistencies in public health work has existed for years. Municipalities have enacted most rigid plumbing by-laws to safeguard against leaks of sewer gas, while at the same time pouring the sewage from which this gas emanates into the body of water from which they subsequently take their water supply. Plumbing by-laws are very important, as are all building by-laws, but departments of health should not be burdened with their administration. This should rather constitute a part of the duties of the department of architects and buildings. However, all building and plumbing by-laws

should be submitted to the medical health officer for ratification. A much greater source of danger is the small leaks of illuminating gas, yet few cities have efficient by-laws governing the installation and inspection of gas supplies.

Sewage purification and disposal and water purification are engineering problems, but should be installed under the supervision of, and subject to the approval of, the medical officer of health, and the efficiency of the plants should be determined by the laboratories of the department of health. But the administration of these plants should not be a part of the work of the department of health, nor should it be burdened with this expense.

It must be apparent that if any of the foregoing be not properly administered, they will constitute a nuisance, and the department of health, in the discharge of its duties, will require of the head of the department that is responsible that these nuisances be abated. Having, therefore, relieved our departments of the expense and burden of administering these problems, we can direct our entire attention to the real problems in the prevention and control of preventable disease.

Municipalities have for years recognized their obligations to endeavor to control and render safe their water supplies and have expended millions of dollars, in doing so—and advisedly so—but it is only within the past few years that municipalities have made appropriations to safeguard their public milk supplies—and yet I do not hesitate to say that for every case of sickness or death caused by impure water, there are from ten to fifteen caused by impure milk. As Prof. Roseneau has pointed out “Impure milk is responsible for more sickness and death than all other foods combined”—including water.

We have been talking and writing for years of preventable diseases. Fortunately, we are now developing an enlightened public who will demand, if these diseases are preventable, that they be prevented.

A second article on this subject dealing with industrial hygiene, housing, etc., will appear in the next issue of CONSERVATION OF LIFE.

CONFERENCE ON URBAN AND RURAL DEVELOPMENT IN CANADA

THE second annual conference of the Dominion Civic Improvement League was held in Winnipeg on the 28th, 29th and 30th of May last, under the auspices of the Dominion Civic Improvement League and the Civic Improvement League, Women's Civic League, Citizens' Research League, Board of Trade, Rotary Club, Manitoba Association of Architects, Retail Merchants' Association, Industrial Bureau, and allied organizations of Winnipeg.

Although unfortunately marred by the unavoidable absence of the Chairman, Sir John Willison, of Toronto, the conference was a great success and did much to stimulate public interest in the broad aspects of municipal affairs and land development in Western Canada.

All the provinces in the Dominion were represented, among those present from distant points being the Marchioness of Aberdeen; Ald.

Owen, Vancouver, B.C.; Commissioner F. M. Black, Edmonton, Alta.; F. A. Covert, Montreal, Que.; W. F. Burditt, St. John, N.B.; Nelson Rattenbury, Charlottetown, P.E.I., and Ald. Kelly, Halifax, N.S., together with a large number of representatives from Ontario, Saskatchewan and Manitoba.

Among the municipalities represented, in addition to Winnipeg, were Medicine Hat, New Westminster, Victoria, Charleswood, Springfield, Gimli, Carman, Dauphin, East St. Paul, Grey, Portage la Prairie, St. Vital, High Bluff, Hanover, Manitou, St. Boniface, Montcalm, Oakville, Souris, Peguis, Selkirk, Daly, St. Clements, Rockwood, Franklin, Richland, Clanwilliam, Ritchot, London, Keewatin, Fort Frances, Port Arthur, Moose Jaw, Melville, Glenavon, Regina, Strassburg, Saskatoon, Swift Current, Whitemouth, Yorkton, Assiniboia, Gull Lake, Wordsworth.

The following organizations and societies were also represented by delegates: Congregational Union of Canada, Winnipeg Real Estate Exchange, Direct Legislation League, Canadian Westinghouse Co., Retail Merchants' Association, Women's Civic League, Canadian Credit Men's Association, Citizens' Research League, Life Underwriters' Association, Winnipeg Printers' Board of Trade, Immigration and Colonization Society of Manitoba, Canadian Society of Civil Engineers, Greater Winnipeg Plan Commission, Local Council of Women, Winnipeg Presbytery, Manitoba Association of Architects, Water Works Commission, Winnipeg Industrial Bureau, Social Service Council of Manitoba, Retail Merchants' Association of Manitoba, Social Welfare Commission, The Western Art Association, Land Values Taxation League, Winnipeg.

OPENING OF CONFERENCE

The conference was opened on the morning of May 28, at 10.30, Mr. G. W. Markle, president of the Winnipeg Civic Improvement League, presiding. Among those on the platform were Sir James Aikins, Lieutenant-Governor of Manitoba; Hon. T. H. Johnson, Acting Premier; Controller Cockburn, Acting Mayor of Winnipeg; Dr. J. W. Robertson, C.M.G., and Mr. James White, of the Commission of Conservation, and one delegate from each of the nine provinces.

Letters of regret were read from Sir John Willison, Sir Clifford Sifton and Mr. G. F. Benson, of the Montreal Board of Trade.

Sir James Aikins, in opening the conference and welcoming the delegates, said that Winnipeg was pressing towards better things in civic affairs. He appealed for a union of the east and west. Hon. T. H. Johnson congratulated the conference on its objects and expressed the view that the people would prize their citizenship more in the future than in the past. Acting Mayor Controller Cockburn gave the delegates a hearty welcome on behalf of the city. Dr. J. W. Robertson, in replying, paid a special tribute to Winnipeg and its officials for their progressive spirit and their splendid examples of development.

Hon. J. W. Armstrong, Municipal Commissioner of Manitoba, opened the conference sessions by presenting a paper on "Municipal Problems in the Western Provinces." A discussion was then taken up by Mr. J. N. Bayne, Deputy Minister of Municipal Affairs for Saskatchewan, and other delegates.

An informal luncheon was held at the Fort Garry hotel, followed by a discussion on the problem of the returned soldiers. Dr. J. W. Robertson presided, and an interesting exchange of views took place. The discussion was adjourned until the following day.

SECOND SESSION—At the second formal session of the conference, at which Commissioner R. D. Waugh, Ex-Mayor of Winnipeg, acted as chairman, papers were presented by Dr. Horace L. Brittain, director of the Bureau of Municipal Research, Toronto, and Commissioner C. J. Yorath, Saskatoon, on the subject of "Municipal Finance and Administration." These papers presented the views of two of the best informed municipal students in the east and west of Canada, respectively. They were followed by a paper on "Municipal and Vital Statistics," prepared by Mr. R. H. Coats, Dominion Statistician. Mr. S. R. Tarr, president of the Citizens' Research League, opened the discussion on the papers.

THIRD SESSION—In the evening an informal reception and supper was held at the Royal Alexandra hotel, at which Mr. G. W. Markle presided. A number of interesting addresses were delivered on subjects relating to civic improvement and the need for greater food production. The Marchioness of Aberdeen gave an address on "Ireland's Contribution to the War," and referred to the planning and housing conditions in the city of Dublin. Mrs. Adam Shortt spoke on "The Conservation of Food Supplies," and Mr. G. Frank Beer on "The Necessity for Applying Business Methods to the Carrying on of Public Affairs." Among the other speakers were Ald. Kelly, Halifax, N.S.; Mr. Gordon Philip, London, Ont., and Mr. Thomas Adams. Cinematograph views of water-powers and housing developments in Quebec and Manitoba were shown during the evening.

* FOURTH SESSION—The fourth session was opened on Tuesday morning, under the chairmanship of Hon. Valentine Winkler, Minister of Agriculture. In a brief address he spoke of the need of scientific organization of agriculture. Dr. J. W. Robertson and Mr. J. W. Dafoe, editor of the *Manitoba Free Press*, spoke on "Rural Production and Distribution." Papers were then presented by Mr. W. F. Burditt, chairman of the St. John Town Planning Commission, and Mr. Thomas Adams on the subject of "Planning and Development of Rural and Urban Land."

The discussion on the problem of the returned soldiers, which took place at the luncheon at the Fort Garry hotel, was resumed. The chair was occupied by Mr. Thomas Adams, and a large number of representatives from different parts of the Dominion took part in the five-minute discussions.

ANNUAL MEETING OF LEAGUE

At the close of the discussions the meeting resolved itself into the annual meeting of the Dominion Civic Improvement League, and the following resolutions were passed, to be transmitted to the Dominion Council of the League:

1. "Whereas, the present method of planning, dividing and settling land in Canada for agricultural purposes has not met with that measure of success which might be expected, having regard to the great natural advantages possessed by the Dominion, the League again endorses its previous resolution to recommend the Federal and Provincial governments to make a complete survey and investigation into the problem of rural

development; to consider a more scientific method of laying out the land so as to encourage the settlement of lands near to existing means of communication, and secure closer settlement of the population, more co-operation among farmers, and better facilities for transportation, education and social intercourse.

"In view of the conditions likely to arise after the war, and in connection with the return of soldiers from the front, the League desires especially to direct attention to the need of this problem being dealt with in the immediate future."

2. "That the League again directs attention to the want of economy and efficiency in municipal government which in their opinion is not due to any absence of administrative ability or executive skill in the Dominion, but to the lack of proper means of educating and informing public opinion, of co-operation between the provinces and municipalities, and of co-ordinated and skilled provincial departments dealing with municipal affairs and capable of advising and assisting local administration."

3. "That the system of registration of voters and election of representatives in all forms of government needs revision and that the Dominion Council of the League be requested to place the question of proportional representation on the agenda for discussion at the next annual conference."

4. "That the teaching of citizenship in the schools be urged as of vital necessity to secure a better informed and wisely directed public opinion on civic problems."

5. "Whereas, there is at present no uniform system of municipal accounting and reporting in Canada, and, whereas, the benefit of such for mutual help, information and guidance are incalculable, therefore, be it resolved, that this convention place itself on record as favouring such uniformity and lend its moral support to the Union of Canadian Municipalities which is already engaged in advancing this principle."

6. "That the Provincial governments be urged to pass planning and development acts in all the provinces so as to secure that land will be laid out for purposes of economic use, health, convenience and amenity."

7. "Whereas, in any system dealing with employment, public employment offices under the direction of government are essential, and whereas the larger the territory organized, and, consequently, the greater the number of occupations concerned, the more easily can problems of employment be dealt with; therefore, be it resolved that:—

"It is urgently desirable that every province in Canada immediately organize— if it has not already done so—a nucleus of an employment office system which may be developed as requirements demand;

"That these provincial systems should be uniform and that measures be provided for close inter-provincial co-operation; and

"That this co-operation be effected through a Federal Bureau to be established in connection with the Dominion Department of Labour."

8. (a) "Whereas, there is need for more efficient and uniform legislation and administration relating to vital statistics in Canada, under which each province shall compile its statistics to enable comparisons to be made between the different provinces, as well as internationally, and

"Whereas, the minimum standard for collecting vital statistics should at least be equal to that adopted by Australia and the United States, and

"Whereas, public health problems, immigration and knowledge of the man power of the country cannot be studied without the aid of accurate statistical information;

"Be it resolved that the Census and Statistics Office at Ottawa be congratulated on the steps it is taking to improve the methods of collecting vital statistics and that the said office and Provincial governments be memorialized regarding the urgency of further measures being taken to collect more accurate and comprehensive data regarding vital conditions.

(b) "Whereas, there is no satisfactory system of collecting and tabulating municipal statistics in Canadian provinces and the municipalities within each province have sometimes radically different standards, and

"Whereas, municipal expansion is proceeding and municipal expenditure increasing at a rapid rate in Canada, and municipalities are unable to get the advantage of any comparative study of municipal developments and statistics;

"Be it resolved that the Dominion Government be urged to institute a Federal system of municipal statistics in co-operation with the municipal departments, bureaux, or branches, of the Provincial governments.

9. "Whereas, the problem of returned soldiers is of pressing national importance and should be dealt with independently of the problem of land settlement, and

"Whereas, the organization of effective means of educating ex-service men to the class of industries for which their inclination and ability will suit them, other than those who are disabled and who are therefore being taken care of by the Hospitals Commission, requires the attention of a skilled and non-political federal commission acting in co-operation with the provinces and municipalities, and

"Whereas, land settlement should not be forced or artificially stimulated in the sole interest of disposing of lands or increasing rural population, and

"Whereas, the establishment of any colonies or the promotion of any system of land settlement should be carried out on scientific lines and with due regard to the economic use of the land, so as to secure the facilities necessary for increasing production in all classes of industry, including manufacture and agriculture, and

"Whereas, there is need for an elaborate survey and inventory of land resources and the preparation of complete topographical maps of land in Canada, the opportunity should be taken to employ those ex-soldiers who have suitable training for this purpose to make a survey of these resources and prepare the necessary maps.

"Be it resolved that the attention of the Dominion and Provincial governments be drawn to the importance of these matters, notwithstanding the work that is already being accomplished by the Dominion Government through the Soldiers' Aid Commission."

10. "That the League records its adherence to its previous resolution in favour of better leagues to control immigration, to improve civil service standards and to form a Dominion department of public health."

In accordance with the suggestion made by Mrs. John Dick, of the Women's Civic League, it was resolved that a resolution with reference to the financial care of disabled soldiers should be drafted by Mrs. Dick and transmitted to the Dominion Council for consideration.

An invitation was presented from the Vancouver City Council asking the Conference to meet in British Columbia in 1918. The invitation was personally supported by Ald. Owen, Chairman of the Board of Health, of Vancouver. Mr. F. A. Covert, of Montreal, suggested that the 1918 conference should probably be held in the east, preferably in the Maritime Provinces, and the invitation of the Vancouver Council accepted for 1919. It was decided to leave the matter with the Dominion Council, subject to the recommendation of the meeting that the two next conferences be held in British Columbia and the Maritime Provinces in the most convenient order and subject to an invitation being received from the Maritime Provinces.

The following western representatives were added to the Dominion Council of the Civic Improvement League: Commissioner F. M. Black, Edmonton, Alta.; Mr. G. W. Markle, Winnipeg; Commissioner C. J. Yorath, Saskatoon; Ald. Owen, Vancouver, and Mrs. H. Day, Victoria.

During the afternoon visitors were driven round the city parks and streets by courtesy of a number of the business men of the city.

The closing session was held at 8 p.m. and consisted of a joint meeting between the Dominion League and the National Council of Women. Dr. A. J. Douglas, Winnipeg, presided and addresses were given by Col. G. G. Nasmith, C.M.G., Toronto, and Dr. Helen MacMurchy, Toronto, on public health problems. The Marchioness of Aberdeen, Dr. R. M. Fraser, Mrs. Smillie, Ottawa, Mrs. Murray, Halifax, and Mr. Covert, Montreal, took part in the discussion.

On Wednesday, the 30th May, the delegates to the Dominion League Conference and the National Council of Women's annual meeting, together with a number of Winnipeg residents, made an all-day trip to the construction works of the new water system for Greater Winnipeg, by kind invitation of the Winnipeg Water Works Commission.

The key-note of the conference was conservation of life and natural resources. The papers presented on the different subjects were of unusually high merit.

The local arrangements for the conference were admirably carried out by Mr. G. W. Markle, president of the Winnipeg League, in co-operation with Commissioner R. D. Waugh, and other leading citizens, and with the executive assistance of Mr. J. H. Curle, the Local Secretary.

Considering that the conference was held during a difficult time and in the midst of a great war it is surprising that it was so successful and well attended, and this result is mostly due to the efforts of the Local Committee and those who co-operated with them.

A full report of the Conference proceedings will be published in due course.

MUNICIPAL PROBLEMS IN WESTERN PROVINCES

BY

HON. J. W. ARMSTRONG

*Municipal Commissioner of Manitoba**

THE Canadian municipality is the civic unit into which the provinces are divided and, in common with the provincial and Dominion representative bodies, enjoys the right, through its elected council, to pass legislation, possesses executive and administrative authority and performs an important part in determining the character of our national life.

While the municipality is a creation of the Provincial Government, and its authority may be limited by that body at will, there is a fixed, unwritten understanding that the municipality shall be given as its sphere of action, control of all matters that are of such a local nature that they can be successfully dealt with by its own organization. It is essentially the people's government; in its modern form was born with democracy, and its authority has been extended with the enlargement of the privileges of the people to participate more and more in matters of government.

We recognize two phases of municipal authority: The one, in which the municipality acts independently. The council enacts and administers its own by-laws, guided only by the dictates of its own judgment, and fully manages a large portion of its receipts and expenditures, amounting in the Prairie Provinces to \$27,000,000 annually, while the expenditure by the Provincial Governments of these provinces is little more than half this sum. Secondly, the municipality acts dependently on a department of the Provincial Government in a large and growing number of questions in which the control and supervision is retained by the department, and the council is given jurisdiction in the local administration of the Act.

This practice of delegating executive and administrative authority to the municipality is a most satisfactory way of suiting legislation to the

*Paper read at the National Conference of the Civic Improvement League Canada, held at Winnipeg, May 28-30, 1917.

varied conditions that naturally exist in any province, and enables a happy solution of many vexed questions, that are viewed from as many different angles as there are effects to be produced by their enforcement. A large field is covered by this class of provincial statutes, and includes laws on education, public improvements, public health, social welfare, those relating to hospitals, administration of justice, town planning and hotel accommodation, and the large subject of public utilities, always a live question in this city, is just waiting a favourable opportunity to present its claim for consideration.

It is only when we contemplate the great range of subjects covered by the administration by municipalities, all of which intimately touch the home life of the people and require to be moulded to meet successfully the diversified conditions that exist in these western provinces, that we fully realize to what extent the physical, moral and intellectual well-being of our population, especially in the rural districts, depends upon the character of the government these organizations are able to furnish.

Every one of these departments presents its own problem, to all municipalities, where jurisdiction is given. We meet them in their normal form in the well populated areas of the west, and we meet them in their abnormal and purely western shape in the districts that are not yet well enough settled to admit of efficient management by ordinary municipal machinery.

The former class are examples of efficient and up-to-date administration. Fired with youthful enterprise and ambition, they adopt the latest methods of procedure and take advantage of every opportunity to improve conditions in every department. They readily receive suggestions from the eminent authorities on municipal matters, who meet them at the annual conventions, and from other available sources, carefully considered selections from which are regularly incorporated into the Municipal Act, and keep the law in good form. Care is exercised in placing well qualified officials in charge of the executive end of the work, and altogether these organizations will compare favourably with the most advanced rural municipalities in the older provinces of Canada.

In the latter class, we meet a different situation. Here the lack of continuity of settlement interferes with the efficient work of the machinery, and westernizes all municipal questions. With true western spirit, these new municipalities are bravely, and with a degree of success, dealing with their local problems, that on this account are beset with unusual difficulties which happily, however, lessen automatically with the increase in population.

Over a large part of the Prairie Provinces a considerable percentage of unoccupied and non-producing good land is interspersed in the settled districts. They are not unoccupied because they are not fit for settlement, but because their productive possibilities have made them a most attractive field for investment, and led to their alienation from the Crown, with the expectation of profit-making in the transaction.

The settlement of these vacant lands is the greatest material blessing that could be bestowed upon Canada, and the West in particular, and next to this might be considered the extension of our settle-

ment boundaries, under guidance, beyond the present frontiers. It constitutes our most important and practical western problem.

It is not an exclusively municipal problem. Few problems are, and there are few questions before any branch of government that do not affect the municipality in their administration to a greater or less degree.

Populate these lands and every institution of government will in a large measure, become effective. The full benefit of our elementary educational system will reach every home. The Board of Health will be able to extend its assistance and instruction on sanitation to every locality. Hospital treatment and the service of trained nurses will be available wherever required. An opportunity to develop the higher faculties of the mind will be afforded through an elevating community life. Goods roads and easy transportation for farm produce will be accomplished with comparative ease. No district will be without modern telephone communication. Hydro-electric energy for the rural districts will be soon realized, and every phase of municipal life will be thoroughly enjoyed. While endeavouring to accomplish these civic advantages through settlement of our vacant lands, soldiers and others released from war activities are at the same time being provided for. It is by no means too early to make preparations in this direction.

Already the minds of all loyal citizens, who share in the responsibility felt for adjusting conditions after the war closes, are endeavouring to shape a "*modus operandi*" that will reduce to a minimum the unbalanced state of things that, economically speaking, must follow the disbanding of large armies of soldiers, and setting free as many more who are now engaged in the munition factories, and other employments attendant on the activities of the nations engaged in this gigantic struggle. To pass from the high strung equilibrium of all the forces at the nations' disposal attained as a result of these years of earnest application by the best heads of the warring nations, to a balanced condition of society, will be an enormous task. The transition, however, must be made and the preparation for and the execution of the work requires so surely and extensively the active co-operation of all governments, municipal and otherwise, that next to contributing to the successful prosecution of the war for the full period of its operation, adjustment of conditions after its close is the commanding question.

Whatever character the adjustment may assume, the expansion of agriculture will enter in as a large factor. In Canada, the replacement of the losses sustained by the war must come, from this industry, as our principal source of wealth. This unoccupied territory offers almost unlimited and ready-made opportunities for the great numbers of men, who will be relieved from their present duties, to at once step into productive employment; while any other extensive opportunity in the form of industry requires to be created. The settlement of the land increases the consuming population and widens the market for manufactured goods of all kinds. The first economical effect, therefore, will be a balance between supply and demand in food stuffs, a most desirable condition to create. The second and certain effect will be seen in the increased activity on the part of the manufacturing industries already in operation, and the construction of new plants to meet the increased demand the larger population will make upon their output.

It is self-evident that since our market for manufactured goods is confined to our own country, and our farm products permitted to seek the need for them the world over, that our agricultural expansion must precede the establishment of other industries. I mention this for the reason that some enthusiastic advocates of "after the war settlement," sincerely, no doubt, advise the establishment of new manufacturing industries as a supreme remedy. It would appear, however, that the expansion of agriculture is the direction where most of the energy may well be directed, and the progress here will in turn furnish the necessary requisite, which, supplemented by capital, expenditure under organized direction will lead to a profitable enlargement of all other manufacturing lines.

I assume that the salutatory effect of such a condition of settlement in alleviating municipal disabilities, in assisting general development, in contributing to production of wealth to meet war losses, the stimulus to manufacturing industry, and more especially the opportunities afforded to employ the returned soldier and others, is sufficient evidence to secure agreement on its desirability.

Its realization, however, is a problem of some magnitude, attended with complications, and will require a carefully arranged co-operative scheme on the part of all interested and responsible bodies. A completed plan includes:—

- (1) A means of making the lands available for settlement.
- (2) Preparation of the district for settlement.
- (3) Selection, classification and location of settlers.
- (4) The extension of municipal administration to the district.

These lands are capable of the phenomenal production characteristic of the middle west. Many of them are already furnished with railway accommodation. They are in the ownership of railway and land corporations and private individuals. They are all for sale, and, to make them an area permanently available, on advantageous terms, to the intending settlers, it will be necessary, as a part of an organized plan, to renationalize them as far as practicable. This suggests a large undertaking to completely accomplish, which would require radical measures on the part of our highest authority. I have, however, reason to believe that, without any variation of trade customs, sufficient of these lands can be made available for occupation on terms embodying settlement duties to successfully carry out a comprehensive plan of western settlement and development.

It must not be suggested that the policy of inviting immigrants to settle on the homestead lands still available should be abandoned, but that the policy be enlarged to include an invitation to the intending settler to occupy, on reasonable terms, the vacant lands along the railways and in the other districts, much of which is already partially occupied.

We must be prepared, however, to deal with these homesteaders, who are lured by the offer of free land to go beyond settlement, beyond railway accommodation and beyond all community comforts, and wait for a longer or shorter period for the conveniences that municipal organization will eventually furnish.

If such persons were permitted to exchange on an equitable basis their homesteads before they located, for land where all the advantages enjoyed by a settled community are ready to step into, and their settlement duties completed on the land taken in exchange, I have no doubt many such would be diverted from what is often, for several years, a life of comparative uselessness for themselves, their families and their country to one of immediate prosperity, contentment and useful citizenship.

When the inside lands are all occupied, railway extension, civic improvements and colonization could profitably travel hand in hand to the adjoining new territory, each contributing its part in converting it in turn into a productive district and organized community.

It is no longer considered sufficient, in order to secure a desirable citizen, to accept his homestead entry only. Some district preparation is surely desirable and a reasonable supply of municipal conveniences furnished on his arrival.

This field may be considered too remote for the function of a Town Planning Commission, but I would point out that there is here an important work yet unassigned to any authority. While it is certainly true that the incredible production qualities of our grain growing districts have generally soon changed a pioneer settlement of homesteaders into a community of well-to-do farmers, preparation for their arrival and wise direction in making their location would have eliminated some of their early inconveniences by securing a more orderly settlement and an easier and more effective municipal administration.

I need not dwell on the source of supply of people. We assume that the returned soldiers, those released from other war activities, and the supply from the various immigration agencies will be requisite.

Our policy of colonization will not appear to me to be complete until a measure of care is exercised in classifying those who come to these provinces as their adopted country. Sound and sympathetic advice will very materially assist in reaching a decision that will lead to a greater degree of success in occupation. Failure to succeed in the west cannot, in justice, be ascribed to the country, and with a moderate degree of community preparation, and unprejudiced direction, reports of failure on the part of those who embark on western residence will be reduced to a negligible quantity.

The elimination of the pioneer feature of settlement after this manner is perhaps too Utopian and embodies too great a departure from the lines of policy pursued in the past to hope for its full adoption, at once, and yet all the elements will be ready to be mobilized. A large population will be seeking residence; the most productive soil in large quantities on the globe invites occupation and tillage, and all public bodies recognize the problem. The solution, therefore, depends upon a sympathetic and active co-operation of all those in authority, and, with the assistance of the capable societies represented at this Convention, and other auxiliary bodies, a full measure of the several practical benefits indicated may confidently be predicted.

MUNICIPAL FINANCE AND ADMINISTRATION*

BY

C. J. YORATH, A.M.I.C.E., A.M. CAN. Soc. C.E.

City Commissioner, Saskatoon

DURING the last few years, more particularly those of the financial depression prior to and immediately following the outbreak of war, a new civic interest has been awakened amongst taxpayers throughout the Dominion, with the result that expenditures, both current and capital, have been greatly curtailed.

As a result of good crops, the high prices obtained for same, and an enormous increase in trade, as evidenced by the fact that an adverse trade balance of \$171,748,000 before the war has been changed into a favourable trade balance last year of \$318,366,706, the financial condition of many of our municipalities has greatly improved. This satisfactory state of affairs has revived or is reviving the optimistic feelings of the past, which may result in the renewal of extravagant municipal expenditures, and it is well to remind those responsible for civic government that for some time to come only expenditures which are absolutely necessary for maintaining public services in an efficient condition should be undertaken.

It should be remembered that as a result of the war, the Dominion debt will, in all probability, be seven to ten times as great as it was before the war; that very large annual appropriations will in future have to be made for the payment of pensions, disability allowances, vocational training, etc., etc.; and that in all probability for the next few years the present very favorable trade balance will be considerably affected, all of which will result in greatly increased Dominion taxation.

For a population of eight millions we are a very much over-governed people, and in addition to Dominion and local taxation, heavy provincial taxes must be paid for the upkeep of Provincial governments. It is therefore all the more necessary why good efficient local government must be insisted upon and obtained.

Before the war the debts of municipalities exceeded the combined debt of the Dominion and the provinces, so that it will be realized, in order to effect true economical development of the Dominion, it is first necessary to give attention to the individual units responsible for a very great part, if not the greater part, of the country's taxation, *i.e.*, the local authorities.

The debts of municipalities have been increasing at an alarming rate and, if investigated, the cause is chiefly attributable to the following:

- (1) Lack of foresight in the planning of public works.
- (2) Haphazard development of the community in the interests of ward politics.
- (3) Lack of municipal experience of those responsible for local government.
- (4) Lack of experienced supervision and control by the Dominion or Provincial governments.

*Extract from Paper read at National Conference of Civic Improvement League of Canada, held at Winnipeg, May 28-30, 1917.

- (5) Increase in municipal ownership of public utilities.
- (6) Lack of a proper plan and scheme for the development of the town or city.
- (7) Creation of a debt to pay the cost of local improvements.

The above reasons generally apply, but the following additional reasons should be mentioned as the cause for the very large increase in the debts of Western Canadian cities.

- (8) Lack of proper control both by the local authorities and the Provincial government in the subdivision of land into lots and blocks.
- (9) After allowing the indiscriminate subdivision of land, the adoption of a system of taxation by local authorities which encouraged or almost compelled owners to develop their property regardless of the normal demand for improvements.
- (10) The extension of public utilities to serve outside subdivisions when the prospective revenue would not be sufficient to meet the fixed charges upon the expenditure involved.

It will be realized, from the following statement of the per capita debt of some of the principal Canadian cities, compared with cities of the United States and Great Britain, how important it is in the best interests of the Dominion that the municipal system be immediately overhauled and controlled or guided.

Name of city	General debenture debt* <i>per capita</i>	Less public utilities debt <i>per capita</i>
Halifax.....	\$108	\$71
St. John.....	71	11
Montreal.....	160	....
Toronto.....	150	84
Ottawa.....	96	57
Winnipeg.....	129	40
Regina.....	313	130
Saskatoon.....	290	150
Calgary.....	242	100
Edmonton.....	359	170
Vancouver.....	265	218
Victoria.....	245	145

*After deducting sinking fund and property owners' share of local improvements, but including debt of public utilities.

The average debt of the larger cities in the United States is slightly over \$40, and of the larger cities in Great Britain \$120 per capita.

The principal reasons why, in the majority of cases, the per capita debt of Canadian cities, more particularly those in Western Canada, is

so much greater than that of cities in the United States and Great Britain are:—

- I.—The public ownership of electric light and power plants, street railways, waterworks, etc.
- II.—The creation of debt to pay for public improvements, such as street paving, sidewalks, sewers and drainage.

MUNICIPAL OWNERSHIP RESPONSIBLE FOR INCREASED DEBT

The advisability of cities owning and operating their own utilities is a very much debated question, and it is doubtful if ownership provides better service when compared with that given by private enterprise. There is no question that public ownership increases a local authority's debt and liabilities to a considerable extent, as shown by the above figures, when compared with cities of the United States. When a utility is municipally owned it is liable to be exploited for local political reasons, and its policy is in the large majority of cases guided by inexperienced administrators. Another objection to municipal ownership is that once a debt is incurred it has to be carried to maturity, no matter if the particular plant in connection with such a utility is rendered obsolete by subsequent invention or improved methods and practice.

Take, for instance, the example of the street railway with fixed tracks and overhead or underground cables. The London County Council (England) incurred a capital debt of over \$50,000,000 in the purchase and construction of electric street railways when very shortly afterwards it had to meet the competition of improved motor buses. There is very little doubt that in the future, for some time at least, the mobile method of rapid means of transit will supersede the fixed tracks of the street railway.

If the utility is owned by a private company one of the risks which it takes is that of improved up-to-date competition, and if such a competition does arise the company is wound up and a fresh start is made.

Some time before the war, according to the *Municipal Year Book*, it was ascertained that in Great Britain, out of 184 principal municipally owned undertakings, with a capital investment of \$140,000,000, a profit of \$5,635,000 was realised. Of this profit five millions was produced by twenty concerns and the remaining \$635,000 was credited to 164 undertakings with \$75,000,000 capital, thus showing a return of less than one per cent. Of these, however, 69 undertakings, representing \$15,000,000 capital outlay, showed a net annual loss of \$350,000. Compared with this showing 60 private companies in Great Britain, with a capital of \$85,000,000, yielded a profit of \$10,000,000, or 11¾ per cent.

If public ownership is decided upon as necessary in the best interests of the general public, then it must be conceded also that in the best interests of the municipalities and the country that such utilities must be conducted and administered upon proper business principles. This can only be done by experienced employees and management. It is submitted, however, that the best public service would be obtained from private ownership if operated upon a co-partnership basis, that is, by allowing the employees to participate in a share of the profits.

LOCAL IMPROVEMENT DEBT SHOULD NOT BE CREATED
BY LOCAL AUTHORITIES

A considerable part of the debt of Canadian cities is represented by money expended upon local improvements, such as paving, sidewalks, drainage, etc. The proportion to be charged to the general taxpayers and the owners of the property immediately benefited varies considerably throughout the Dominion; the total, however, so expended is usually considered as part of the city debt, although the sinking fund and interest on the amount expended as the properties' share is specially levied against the properties with a frontage to the street improved.

In making debt comparisons of cities in Canada, Great Britain and the United States regard must be given to this fact, as in the two latter countries local improvements such as have been described are made by the local authorities at the cost of the adjoining property owners, *i.e.*, the total cost of paving a street, laying sidewalks, constructing drainage, etc., when completed, is immediately charged against the property owners fronting upon the street so improved; thereby making the cost of street improvements part of the capital expenditure of the individual property owner instead of the local authority.

The local improvement procedure adopted in the United States and Great Britain is very much to be preferred to the system adopted in Canada, as the cost of such improvements spread over the individual owners of lots is comparatively small and does not add materially to the cost of the improvements erected on their own property.

Another considerable advantage in charging the total cost of local improvement against the property owner immediately after it has been completed is that it deters an owner from clamouring for improvements until he has improved his own property; whereas under our system in Canada the speculative holder of land clamours for improvements, as he has no objection to paying, for a year or two, the small annual charge of sinking fund and interest if, by virtue of the improvements, the value of his property is enhanced and his chances of selling same have considerably improved.

The practice of charging expenditures to a loan is carried to such extremes by some cities that even the cost of sewer, drain and water connections is spread over a period of thirty years. When methods such as these are adopted it is little wonder that the debts of Canadian cities compare so unfavorably with debts of other countries.

The concluding part of Mr. Yorath's paper will appear in next issue.

A PRACTICAL TOWNSHIP SETTLEMENT PLAN

BY

W. A. BEGG, D.L.S., S.L.S.

THE essential features of any improved plan to further land settlement in the northern parts of the provinces of Alberta, Saskatchewan and Manitoba must be (1) Suitability of the shape and size of the lots and suitability of the road system to a topography described as rolling land, heavily wooded and broken with lakes, marshes and streams; (2) adaptibility to the existing systems of survey and methods of indexing and describing land; (3) establishment of a community or settlement centre whereby the man with a trade or business, upon which the homesteaders are dependent, might secure sufficient land and an opportunity to practise his trade concurrently with the settlement of the township.

The diagram has been prepared to illustrate the proposed scheme. It contains the above essentials, in a degree, at least, more perfectly than the present system, in which the first and last are all but absent, and more perfectly than certain plans, which have appeared in the public press deriding the second essential and going from simplicity to the other extreme. It is proposed to show that the scheme could be applied to any township plan in the third or fourth system of survey for Dominion lands which is now surveyed but not yet entered upon for settlement, and within a month or so a new township plan, in accordance with the scheme, could be placed in the Dominion Lands Office with a minimum disturbance of the present methods of making entry and keeping records.

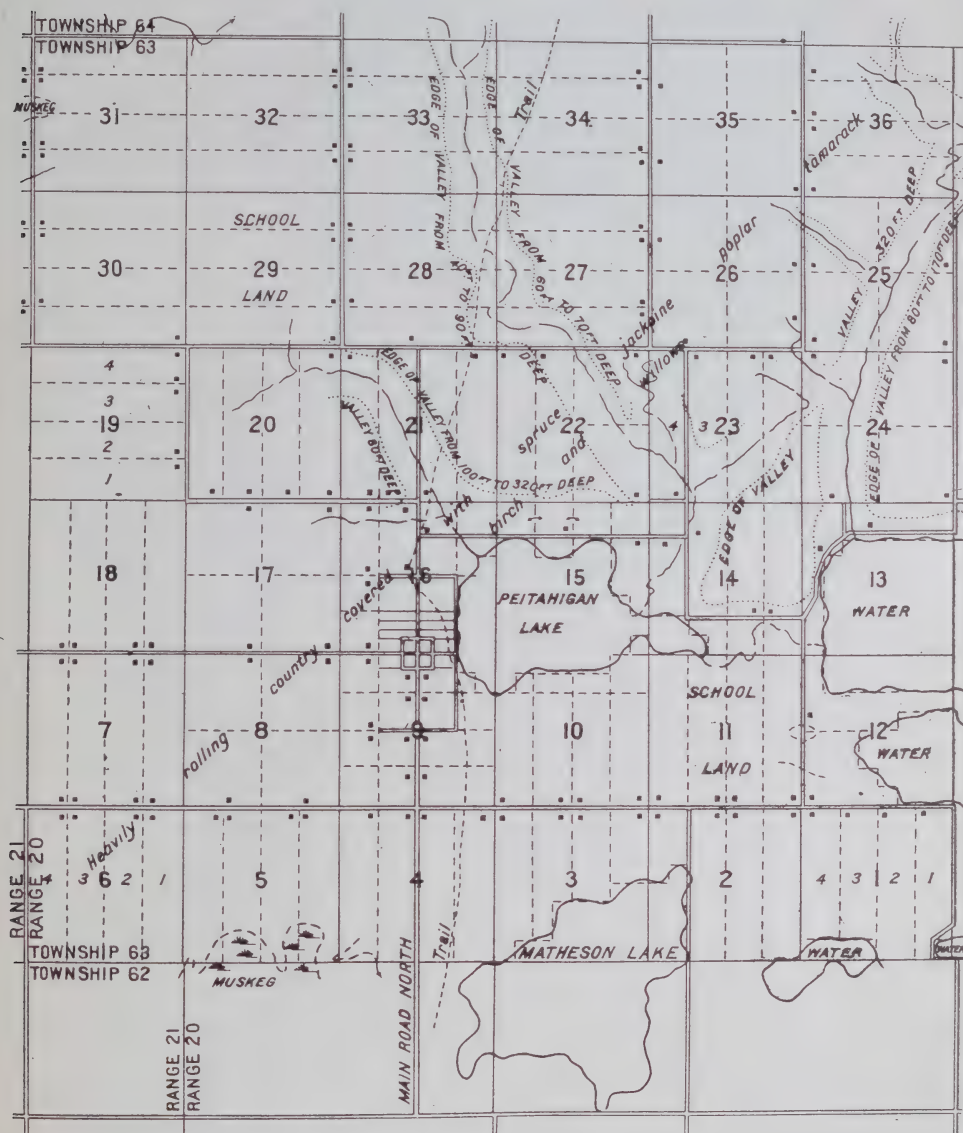
Two chief and radical changes are proposed, namely, (1) Where not inconsistent with the topography, the lots for agricultural purposes will be normally 80 chains by 20 chains and may be laid out fronting either north, south, east or west, depending on the road system; (2) the roads will not be laid out according to a set system but will be located by an engineer after the survey by the Topographical Surveys Branch and after a thorough and personal investigation of the topography. This implies that the road allowances, now reserved from the sections, will be included within the area of the lots or quarter sections, and a general reservation of 3 per cent of the area of each allotment will be reserved from the patent for road purposes.

It is not the writer's intention to reproduce the many arguments already advanced by many able men in favor of a changed system. Favourable opinion has been aroused. It is felt rather that an explanation of a method of arriving at the desired result might remove the apprehension and attitude of doubt with which any changes affecting land settlement is viewed.

PRELIMINARY INVESTIGATION

The Dominion land surveyor, during the progress of a township survey, makes careful note of all the topography encountered on the surveyed lines, but only when large lakes or rivers are to be traversed

does he map the physical features within the interior of any section. Notwithstanding, a map prepared from the surveyor's field notes could show much more information concerning the topography than is now



A PRACTICAL TOWNSHIP SETTLEMENT PLAN

Adapted to the Topography of Township 63, Range 20, west of the Third Meridian, Saskatchewan

Scale, 100 chains to an inch

shown upon the authorized township plan. The first step after the survey of the township would be the preparation of a plan showing the topography as fully as possible.

It is proposed that an engineer, experienced in road location, should make a two or three weeks' investigation in the township. He would require a topographical map, barometer and prismatic compass, and such assistants and transport as would enable him to move rapidly about in unsettled districts. The first duty of the engineer would be to make himself fully acquainted with the main topographical features. It would be necessary to be fully informed also with regard to the conditions in the townships immediately adjoining, the nearest improved roads and main trails. He would then be in a position to prepare a draft plan of the settlement.

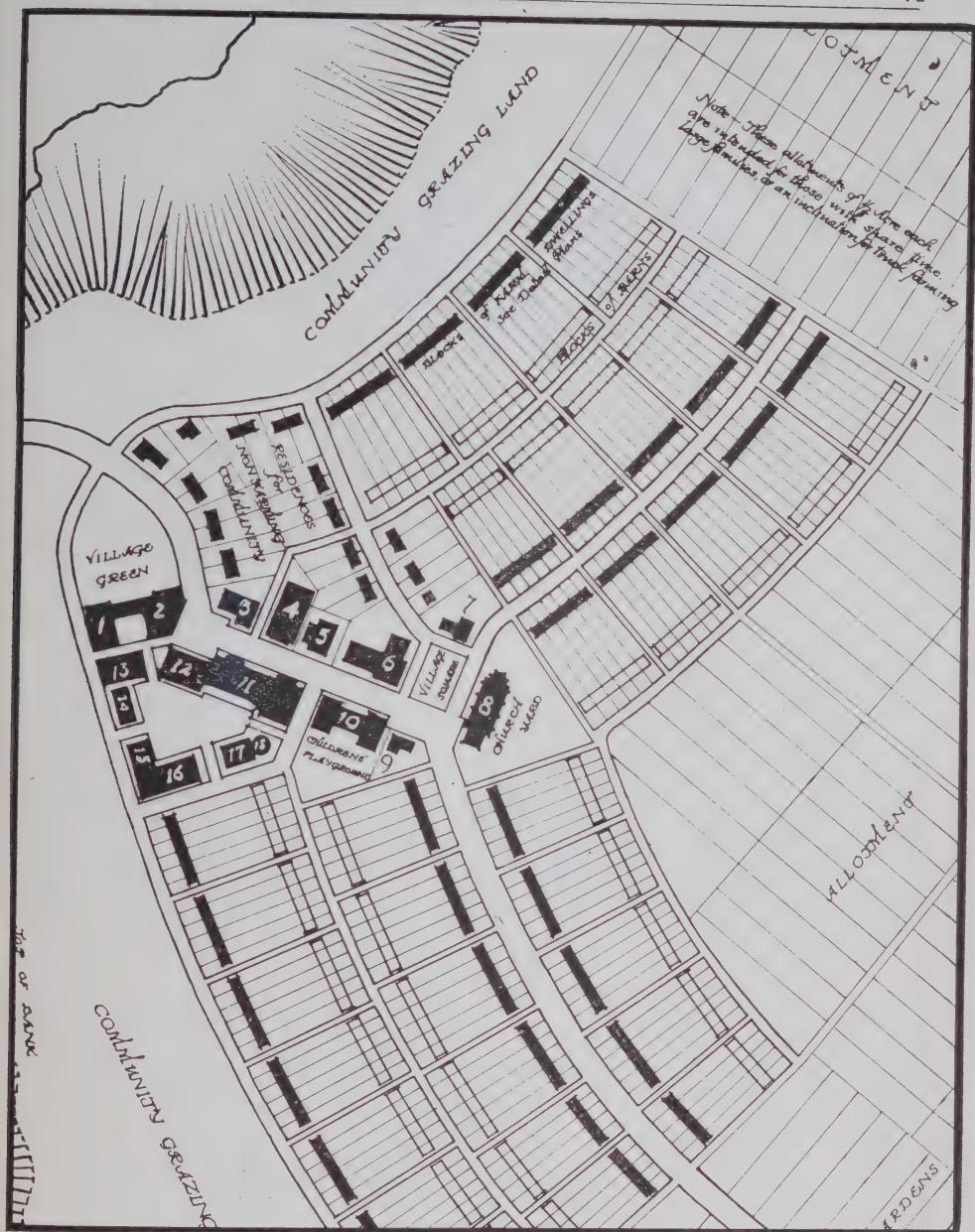
PLAN OF SETTLEMENT

The selection of a suitable site for a community centre would be the first step. The requisites of the location would be dry ground, a satisfactory water supply and a central position on two or more main routes through the township. The engineer would then locate on the plan the approximate positions of the main roads and a sufficient number of laterals to provide access to every lot. By examining the plan accompanying the text it will be noticed that, in order to devise a suitable road system, it will be necessary to depart from the lot boundaries in some instances. It will be possible, however, by having four lots rather than quarter sections, to have more choice in the location of the roads without dividing any lot.

The division of the sections into lots or quarters will require to be considered in connection with the location of the main roads and laterals. It will be possible, as is shown upon the plan, to divide the sections so as to place the wet or broken land at the rear of the lots, and have as many as eight homesteads fronting on one mile of road.

Taking into consideration economy in road construction, safety from fire in having continuous clearings and the possible improvement in social life, it must be admitted that the foregoing has great advantages over the present system. The possible reduction in road mileage would be about one-third of the mileage of the road allowances in the townships under the third system of survey.

After preparing the draft plan of the roads and lots, the engineer would probably require to make further detailed examinations of the proposed road locations and make revisions. Before leaving the ground, however, his plan should be complete. It would not be necessary for him to actually survey and post the roads and lot boundaries. He would probably show certain locations, knowing that the direct line could not be followed and that a winding side-hill road would be required. The survey of these roads and the lot corners could be proceeded with at a later date when settlement had proceeded and the construction of the road had become necessary. The present system requires the survey of a large number of new roads and diversions from the road allowances on account of the useless location of the latter. The scheme of prior investigation before establishing the location would obviate the need of very many road surveys.



PLAN OF A VILLAGE COMMUNITY CENTRE BY H. B. & L. A. DUNNINGTON-GRUBB.

REFERENCE:—1, Concert hall; 2, young men's club; 3, bank; 4, moving picture theatre; 5, inn; 6, town hall; 7, vicarage; 8, church; 9, teacher's residence; 10, school; 11, department store; 12, post office; 13, creamery; 14, bakery; 15, blacksmith and carpenter shop; 16, garage; 17, granary and storage; 18, elevator and chopping mill; 19, saw and rossing mill; 20, central heating plant; 21, greenhouses.

The act of recording the plan prepared by the engineer could be made to automatically reserve the approximate area of the proposed roads from the lots affected, and define the same as public roads. The title to the road could be transferred to the Crown in the right of the province when the position of the road had been definitely decided upon by the municipal authorities.

Where such a plan was based on the third system of survey, it would be found that the lot areas would be normally 160 acres, but, that a few lots would contain 165, 164 or 161 acres according to location. This inequality might be disposed of by charging a nominal sum for any acreage over 160 acres at the time of securing the patent.

THE COMMUNITY CENTRE

The present system of land settlement provides for only one class, *viz.*, the agriculturalist, yet the homesteader is very dependent on merchants and certain trades. Railway companies may establish a townsite in an area of Crown lands, by purchasing the same. The homesteader can not dispose of his land, however, until he has secured his patent. The result is that no communities are established excepting at points on a railroad, which may be 50 to 100 miles from the homesteader for a considerable period of time. This condition is a great disadvantage to the settler, particularly in the first two or three years, when he has so much constructive work to do.

It is suggested that title be given to small lots in the community centre on condition only of residence or the establishment of a business. For areas of 5 or 10 acres and over, the conditions be the practise of a trade or business as blacksmith, carpenter, butcher, etc. For areas of 40 or 80 acres, the conditions be similar to the homestead regulations but a proportionally shorter period of time in which to fulfil duties and secure title. Only one parcel should be granted to a family in the community centre and no parcel could be sold or subdivided until all the available allotments had been occupied. A sufficient area should be reserved in each community centre for municipal buildings and parks, the latter taking the form of a municipal forest reserve.

FLEXIBILITY OF THE SCHEME

In our northern heritage some areas of open prairie are met with in the timbered districts. The plan proposed is readily adaptable to cover such areas. The prairie lands could be laid off in quarter sections without changing the procedure. In the wooded area, in some cases, as indicated on the plan, the manner in which a section is divided by a valley or stream might make it preferable to quarter the section in the usual manner. Flexibility without complexity is one of the chief features of the proposed land settlement plan.



*However, you're my man, you've seen the world—
The beauty and the wonder and the power,
The shapes of things, their colours, lights and shades,
Changes, surprises,—and God made it all!—
For what? Do you feel thankful, ay or no,
For this fair town's face, yonder river's line,
The mountains round it and the sky above,
Much more the figures of man, woman, child,
These are the frame to? What's it all about?
To be passed over, despised? or dwelt upon,
Wondered at? oh, this last of course!—you say
But why not do as well as say?*

Browning—Fra Lippo Lippi.

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CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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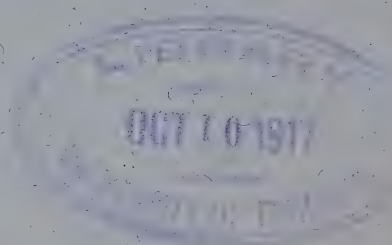
Progress of Civic Improvement and Town Plan-
ning in Canada.

OCTOBER, 1917

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Canada



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CIVIC IMPROVEMENT LEAGUE OF CANADA

HOW TO FORM LOCAL BRANCHES

THE Civic Improvement League of Canada was formed in 1916, for the general purpose of improving city government and arousing a more intelligent and widespread interest in civic affairs. The League is a national organization, but beyond a statement of objects and rules for the guidance of its annual conferences, etc., it has no definite constitution. It is proposed to defer the proper organization of the League until after the war. Copies of the reports of the first conference of the League can be obtained on application being made to the Commission of Conservation.

The intention is to build up the League by the formation of local branches in each city, town and rural municipality. This is the work which is being done at present, apart from the holding of the annual conferences. It is not proposed to encourage the formation of provincial branches until sufficient local branches are formed in any province to make it desirable for these local branches to have a provincial federation amongst themselves; thus, the provincial organization would be a body consisting of elected representatives from local branches of the League. In many districts there are existing boards of trade or other civic organizations, and it may not be desirable to multiply the number of these by starting a new society. In such cases, the need can be amply met by forming a civic improvement committee of the board of trade, or other local board or society. The steps to be taken in either case are as follows:

I. *Formation of New Branch Leagues*—A small local committee should be formed and a list of names drawn up of those who are likely to be interested in the movement. A list of matters of particular local interest should be made, and where any of these are of immediate importance, a short statement or report should be drawn up with regard thereto. A copy of the list of names and any memorandum should then be sent to the Town Planning Adviser, Commission of Conservation, Ottawa, with the request that literature be sent to the names on the list, and that any suggestions or advice should be addressed to the acting local secretary. After receipt of the literature and suggestions, a further meeting should be held for the purpose of forming the local branch and preparing the necessary constitution.

The local branch should then be federated with the Dominion League and a list of its members sent to Ottawa, so as to entitle each of them to receive copies of *Conservation of Life*, and any other literature relating to civic questions, housing, town planning, etc.

The formation of local leagues may involve some small expenditure

for local organization, but, beyond this, no expense need be incurred and no fee is payable in connection with the central organization. Federation with the Dominion League merely means that the list of members of the local league is supplied to the Dominion league for two purposes, namely:

1. That all literature may be forwarded as soon as published to each member; and
2. Each member may be invited to attend the annual conference of the League.

II. *Formation of Committees of Existing Boards or Societies*—In most progressive municipalities, boards of trade and similar organizations are taking up the question of civic improvement as a matter of business interest. For many years the Chamber of Commerce of the city of Cleveland has been primarily a city improvement organization and has, thereby, become one of the strongest voluntary commercial bodies on this continent. In Hamilton, Ont., and other Canadian cities, civic improvement committees or boards of trade act in the same capacity as local Civic Improvement Leagues, and deal with questions in their locality relating to the improvement of city government and the education of the citizens on civic questions. As already stated, in localities where there are existing societies, it may be desirable to avoid confusion and overlapping by simply forming a special committee of one of the existing bodies.

III. *Lectures and Literature*—Apart from personal service and addresses given in different localities to arouse interest in problems of particular interest, there are two kinds of general education which can be carried on by a local league. These consist of,

1. The distribution of literature; and,
2. The giving of illustrated lectures.

In regard to literature, the members of each local league will receive the bulletins and reports above referred to from the Commission of Conservation. From time to time, it may be desirable to obtain extra copies of particular bulletins or reports, and have these distributed to non-members. It may also be desirable to have special matter printed in a particular locality for distribution, or the services of the Dominion League might be sought in obtaining literature issued by some of the Bureaus of Municipal Research, or similar organizations. Good educational work will be done by merely recording the names of members at Ottawa, but, of course, it will be much more valuable if this can be supplemented by a distribution of literature outside of the membership.

In regard to lectures, it is hoped, in course of time, to have prepared a series of illustrated lectures covering all phases of civic improvement, and to have slides and descriptive matter forming these lectures distributed at different centres throughout the Dominion, so that they can be obtained on loan, free of cost to the local leagues, except the cost of mailing. Special lectures can also be arranged by visiting speakers from time to time. As these visits, however, must be at considerable intervals, it is important that one or two citizens should be obtained as volunteers to deliver lectures with the assistance of the material and slides provided for that purpose.

MUNICIPAL FINANCE AND ADMINISTRATION*

BY

C. J. YORATH, A.M.I.C.E., A.M. CAN. SOC. C.E.

City Commissioner, Saskatoon

FINANCE—LACK OF EXPERIENCE AND CONCENTRATED CONTROL

MUNICIPAL finance is divided into two distinct phases, namely:—
Capital Account:—(1) Revenue; (2) expenditure.
Current Account:—(1) Revenue; (2) expenditure.

The hazy ideas as to the relationship between these two phases of municipal finance are perhaps responsible for the many serious problems which arise in connection with the financing of municipal undertakings. It was at one time a common practice, and is now with many local authorities, to embark upon works requiring the expenditure of large sums of capital monies before making the necessary arrangements to finance the cost of the work—and then, when it is realized that work and improvements cannot be carried out without money, it is found that the market is not satisfactory for the sale of debentures. Temporary financial arrangements then have to be made, with all the disadvantages and loss usually attendant thereto. The lesson of the last few years may be a sufficient deterrent to a repetition of the same mistakes, but it is more than likely, with the continual change in the personnel of local government, that the same mistakes and mismanagement will be repeated unless the fundamental principles of sound municipal finance are controlled and guided by experienced management.

What is, and what is not, capital expenditure must be distinctly defined by the lifetime of the work proposed to be carried out and it should be recognized as a general principle that no work with a lifetime of less than five years should be paid for out of capital monies.

There is one result of capital expenditure which the public cannot be too often reminded of, which is, that every cent spent in this way means so much more added to the taxes each year in payment of principal and interest.

The method adopted by some local authorities in making an issue of debentures is sometimes open to criticism. Issues are placed upon the market when there is no demand for such securities, and it sometimes occurs that a local authority will make two, three or even more issues in one year. Whether the sinking fund or serial debenture should be adopted is largely governed by the market in which the securities are to be sold and the preference shown by that market. There can be no doubt that the serial method has a number of advantages to commend it in preference to the sinking fund debenture, the principal of which is that no sinking fund is created, thereby removing the necessity of re-investment and the risk of loss by making bad investments.

There is only one way in which capital expenditures can be controlled and the necessary financial arrangements be properly made and that is by forecasting and planning all the works to be carried out during the year at the beginning of the financial year. But even this system will not be entirely satisfactory and prevent the waste of public

*Continued from July issue, Vol. III, No. 3.

money, if the programme bears no relation to a scheme which should have been previously prepared for the ultimate development of the town or city.

Any expenditure upon an extension of a drainage, sewerage, water-works, electric light and power or rapid transit system, or upon the construction and paving of streets, if not made in relation to the future development of the community will be eventually partly or wholly wasted. It is impossible to develop a town or city economically unless the principles of what is commonly known as town planning have been properly understood and applied.

Since the outbreak of war the market for municipal debentures, outside those which are sold in Canada, has changed from Great Britain to the United States. During the year before the outbreak of war Canadian municipal bond sales on the London market amounted to \$32,347,435 compared with \$12,303,200 sold in the United States. Last year no Canadian municipal bond sales were made in Great Britain but, on the other hand, securities to the value of \$32,336,764 were sold in the United States.

There can be no doubt that during the remaining period of the war, and for how long afterwards it is impossible to forecast, the market for municipal securities will be very much curtailed and what capital financing will require to be done will be at a very high rate of interest.

If greater confidence and co-operation was established between local authorities they could with their sinking funds finance each other to better advantage than by going upon the open market at the present time.

UNIFORM SYSTEM OF TAXATION REQUIRED

The second phase of municipal finance is that of providing revenue to meet current expenses and the control of current expenditures.

The methods of raising current revenues throughout the Dominion are as diverse as other methods of municipal legislation and administration and there is great need for the crystallization of ideas in this regard and the recognition of some established principles and methods of assessment and taxation.

In Western Canada during the boom days a system of taxation was largely adopted which provided for raising the greater part of local taxation by a tax on land alone. In some cities the assessment on improvements was reduced to a minimum and in a few instances was entirely eliminated.

The arguments in favor of its adoption were:—

- (1) That it was the simplest method of raising revenue.
- (2) That it would induce owners of land to develop their property.
- (3) That it would prevent the speculation in land.
- (4) That it was the only fair and just method of taxation, because the value of the land is entirely due to the presence and expenditure of the people.

What are the actual results?

(1) It has proven to be the most difficult method of raising revenue and is largely responsible for enormous arrears of taxes.

(2) It did induce owners to develop their property, so much so that property was developed beyond the normal demand, with the result

that increased taxation has been incurred, rents have been reduced and the supposed benefits of the tax have acted like a boomerang against the owner.

Some owners were so obsessed with the idea of getting as much as possible out of their land that large six to ten-storey blocks were built, with the result that store and office accommodation is centred upon a small parcel of land and the unfortunate owner of the balance is prevented, even if he would, from developing his property.

(3) It did not prevent the speculation in land as, while it was in operation, Western Canada was passing through the greatest land speculation in its history. In fact, it stimulated speculation, as through the supposed advantage of inducing the owner to develop his property, an unhealthy prosperity was created.

(4) No system of taxation can be just which makes it impossible for an owner to earn a fair interest on his investment and results in confiscation of his property.

(5) It did not spread the burden of taxation over the community, *i.e.*, through the payment of rents, etc., as, owing to the unhealthy development which it partly created, the supply was far greater than the demand and owners for the last three years at least have been compelled to take by way of rent whatever they were offered, which in the majority of cases was not sufficient to pay three per cent on the money invested.

For a system of taxation to be successful, just and fair it must

(a) Enable the local authority to raise revenue for its current expenditure expeditiously, leaving as small a percentage of arrears at the end of the financial year as possible.

(b) Be based upon benefits received and ability to pay.

(c) Be distributed so that the cost of the maintenance of streets, sewers, etc., be charged against the property which is specially benefited, and the cost of regulating public health, education, police protection, etc., be assessed according to the ability of the resident to pay.

(d) Prevent an owner, by the imposition of an unearned increment tax, from making an undue profit out of the enhanced value of his land created by the presence and expenditure of the people.

Adam Smith, in his book on the *Wealth of Nations*, lays down sound economic principles of taxation which have been tried out; they have proven just, fair and equitable and should be the basis of a uniform system of local assessment and taxation throughout the Dominion of Canada.

One of the chief causes for a local authority's financial difficulties is its neglect to plan out and estimate its current expenditures, so that the amounts allotted to each department will be known within the first month of its financial year. We have heard much of late from the United States and municipal bureaus about 'the municipal budget,' as though it were something new in municipal administration and a panacea for all municipal waste. That it is an important factor in controlling expenditures was recognized in Great Britain more than twenty years ago, but instead of terming the municipal appropriations a 'budget' they were referred to as 'estimates.'

Detailed estimates, appropriations or a budget, no matter by what name they may be called, should be prepared each year in collaboration with the heads of departments, setting out in detail the estimated expenditures of each department for the current year. These estimates

should be submitted to and approved by the council at the earliest possible date within the financial year, so that each department may know exactly how much money it has at its disposal and how to plan out its work.

Some local authorities have adopted this system but do not follow it up, that is, they do not have monthly estimates and accounts prepared of expenditures in relation to appropriations. In consequence, when too late to remedy the mistake, it is found that some of the appropriations have been exceeded and at the end of the year instead of a small surplus of revenue over expenditure a deficit or an excess expenditure over revenue is the result.

CONCENTRATION IN EXPERIENCED MANAGEMENT REQUIRED TO CONTROL REVENUES AND EXPENDITURES

It will be readily understood from the foregoing that municipal work is extremely diverse and technical in its nature and that to be successfully administered the present system of municipal government requires to be radically changed.

In a short paper such as this must necessarily be it is impossible to discuss the system or systems of local government at present in vogue. That they are usually a failure is generally admitted, chiefly for the reason that administrative functions are nearly always controlled by men who have no experience in the work which they are supposed to administer.

Until the legislative and administrative functions of our local authorities are strictly defined and separated the mayor and aldermen being responsible for the former, and municipal experts for the latter, true economic and efficient civic development cannot be obtained.

To properly control the various departments of a civic authority, to co-ordinate their efforts and to obtain co-operation, to prepare the annual estimates or budget, to afterwards control expenditures in relation to revenues and appropriations, and to guide the civic activities in accordance with a preconceived plan, there must be concentration of administrative authority in one person, who should be a municipal expert, and whose duty it would be to act in the same relationship to the city council as a manager does to the directors of a business undertaking.

Until a Dominion commission, department of municipal affairs, or local government board, whichever it may be termed, is appointed to guide and direct municipal activities throughout the country, uniformity in municipal law, assessment and taxation, accountancy, statistical information, town planning and other matters of vital importance to proper civic development will not be obtained.

Much has been heard of the nationalization of our railway system, but what is even more needed to reduce the cost of living and the burden of taxation is the nationalization of a municipal system of administration which will provide an efficient form of local government.

PREPARATION OF CITY AND TOWN MAPS

NEARLY all Canadian cities and towns suffer from the lack of proper maps showing the natural features and the character of the development within their area. Most of the cities and towns possess only maps of the streets and block sub-divisions with the addition, in some cases, of the lot boundaries, street railways, sewers and water-mains. No attempt has been made to prepare detailed maps of existing buildings, or of the topographical or natural features in most cities and towns. The existing insurance maps are neither suitable, complete or economical enough for general use, although satisfactory for the purpose for which they are prepared.

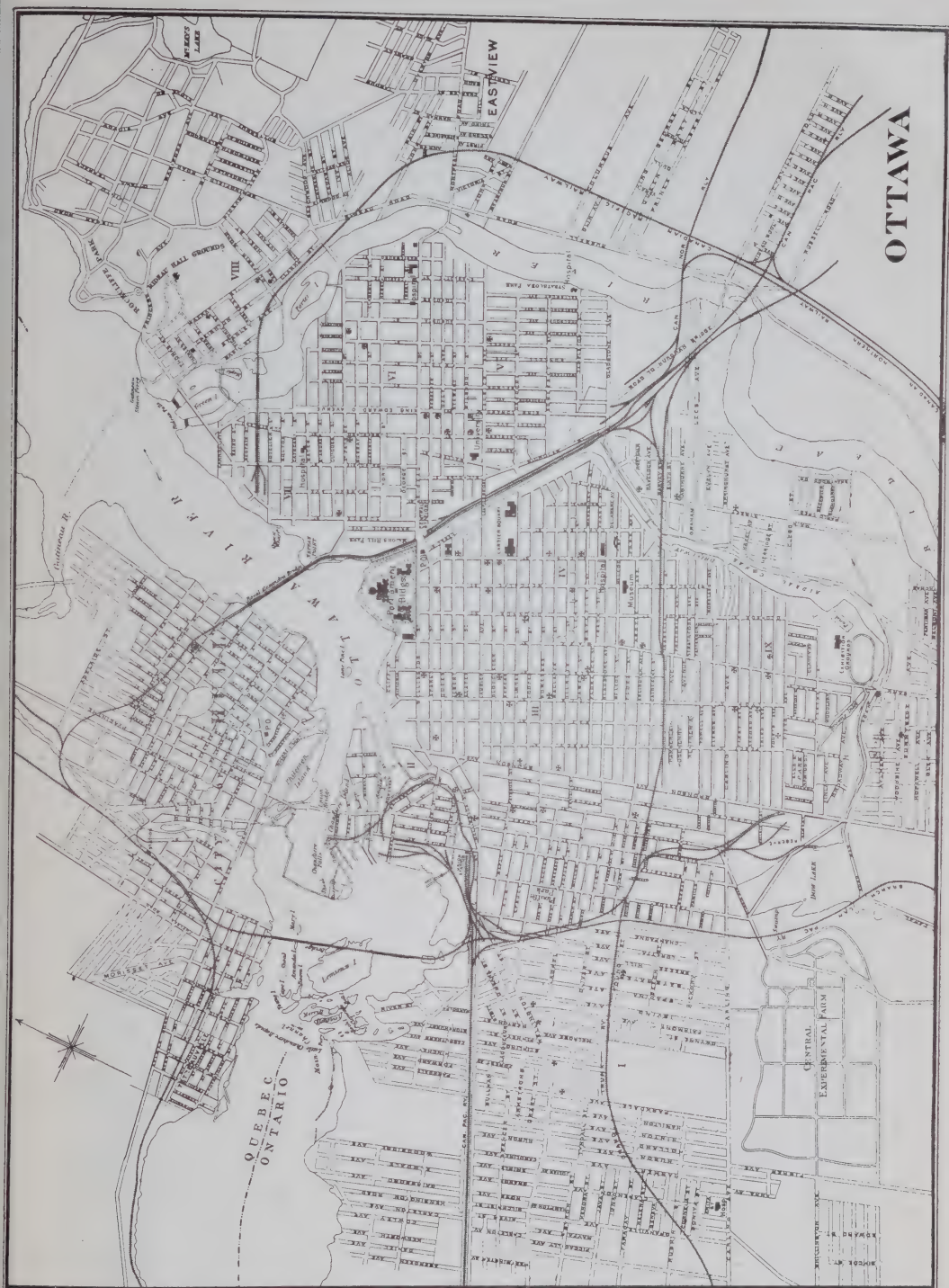
The accompanying map of St. Catharines, Ont., is one of the best attempts made in recent years to prepare a proper city map, although it includes a large number of lot sub-divisions, which probably are only placed on the map because they are registered, but which are not appropriated in separate ownerships in the manner shown on the map. Each city and town should have two principal maps. The first should show the sub-divisions, as they are registered, as a guide to the city or town council, but limited in use for the purpose of enabling the council to follow the method of sub-division. It should be described in the local records as the map of ownership and sub-division. To use a street and sub-division map as is now being done,—as if it were a map of a city,—is not only misleading to the outside public, as to the size and character of any town or



SQUARE OCCUPIED BY PUBLIC BUILDINGS AND SURROUNDED BY STORES, CHARLOTTE-TOWN, P. E. I.—Under proposed development schemes it is practicable to get structural and natural beauty even in the business centres of towns without sacrifice of efficiency or increase of cost over what is necessary to be spent in development in any case.



MAP OF ST. CATHARINES, ONT.—This is a combination of a sub-division map and a map of the city showing the buildings and natural features, and is a great advance on most city plans.



STREET AND BLOCK PLAN OF OTTAWA.—The plan here illustrated is the kind in common use in Canada as a city or town plan. It is misleading for most purposes and does not distinguish between the land developed and improved and the land which is merely sub-divided on paper. Every city and town should have a plan of this kind showing the details of all registered sub-divisions, but also a proper city map or plan showing the actual development and natural features in the area.

city, but is valueless to the citizens themselves as a guide to the actual growth of a town and the character of the area.

The second map should be a topographical map, showing the natural features, planning and actual development of the city. This would be the real map of the city or town.

Charlottetown, P. E. I., has a good city map. A drawing of this map, by Mr. C. R. Allen, is shown on an accompanying illustration. The merit of a map of this kind is that it shows exactly the natural features, the character of the development already carried out, the density and situation of the buildings, the varied width of the streets and the boundaries of the subdivisions as they are actually laid out on the ground. Without visiting Charlottetown, anyone accustomed to reading maps can closely follow the nature of its lay-out and development. Since the surveys were made for this map some changes have taken place, including the removal of the railway station.

One of the interesting features in this plan of Charlottetown which should be noted, is the grouping of the public buildings in Queen's square, a charming and dignified arrangement. In many larger cities such buildings are scattered about in single units and sometimes placed in back streets. Large sums of money are spent in such cases on imposing structures which, for want of grouping and arrangement, lose most of their architectural effect. Simple and comparatively small buildings, properly grouped and placed in spacious surroundings on suitable sites, as in the case of the Charlottetown public buildings, means that a better result is obtained at a much smaller cost for building and site. Another feature of Charlottetown is that the principal stores are situated around Queen's square, disproving the theory which is often advanced, that

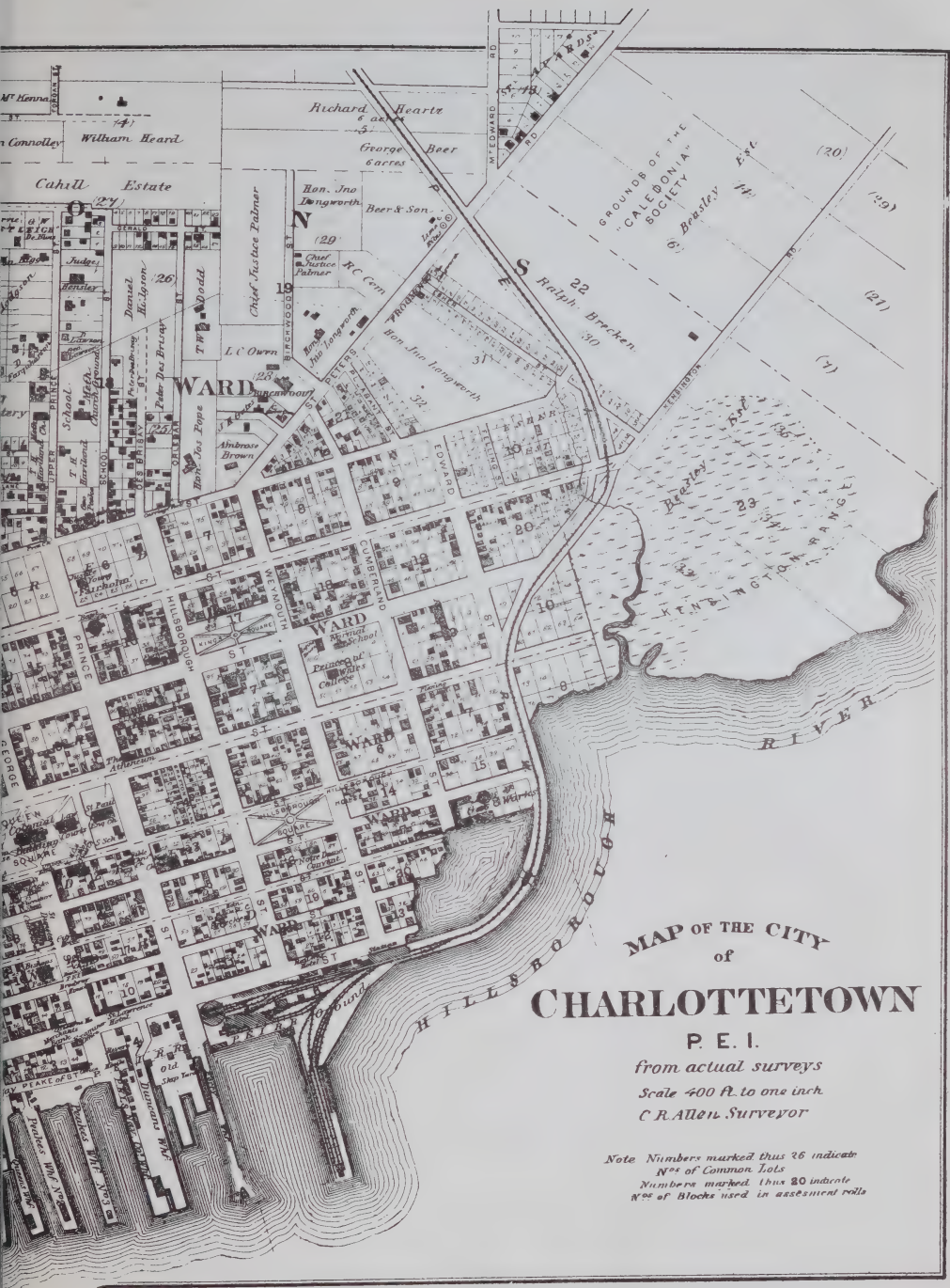


VIEW OF COLONIAL BUILDING, CHARLOTTETOWN, P.E.I., on axis of Great George street, showing good effect of early planning of the city, although marred to some extent by the high building on the left of the picture.

successful stores have to be situated on crowded and comparatively narrow streets and should not have frontages facing public gardens and parks. A view is here shown of the Colonial building on the axis of Great George street, Charlottetown. In later years the planning of Charlottetown has been less satisfactory. An example of bad planning is in the approach to the city from the new station as the result of want of proper consideration being given to the location of what forms the 'portal' of the city.

One feature of the unsatisfactory nature of later developments in Charlottetown is strikingly shown on the map, namely the departure in the suburbs from the spacious lay-out which was first inaugurated by the engineers who planned the city between the water-front and Euston street. To the north of Euston street and Brighton street it will be seen that the development which has taken place is of a very haphazard and irregular character. The streets are much narrower than within the city, although obviously land is less valuable and could have been set apart for street purposes more easily. If Charlottetown develops to any large extent, the plan of its outer suburbs will have to be remodelled at great expense, or the town will suffer considerably from the congestion of its approaches and the absence of through means of communication. We thus see another example of what is probably true, both in Europe and on this continent, that, during the past 60 or 70 years, attention has not been given to the planning of cities and towns to the same degree as in earlier times. With all the progress which has been made in other respects it is extraordinary that some of the worst forms of development in cities and towns seem to have taken place during the Victorian era. This was to some extent, due to the railway developments which introduced entirely new factors in connection with town growth. Many plans were abandoned instead of being changed to suit the new conditions. No attempt was made to revise the system of planning to accommodate the railway development, and cities like Edinburgh, in Scotland, which was planned in the eighteenth century, have suffered from lack of planning during the latter part of the nineteenth century and up to the present time.

The main object in writing these notes, however, is not to point out the failure of recent generations to maintain the standards of earlier times in town planning, but to indicate the value to each city of possessing a proper plan or map, such as that of Charlottetown in the accompanying illustration. It can be seen from this map how easy it would be to prepare a scheme of development for any extension of Charlottetown without any costly survey on the ground. If an engineer were to attempt to prepare a development scheme for a city on the basis of a street and sub-division plan only, he would require to spend a large sum in locating buildings and making surveys which would be entirely unnecessary in the case of Charlottetown, because of the existence of this map.—T.A.



showing its buildings and natural features and only including sub-divisions actually developed,
rate owners.

THE MODERN CONCEPTION OF PUBLIC HEALTH ADMINISTRATION*

BY

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INDUSTRIAL HYGIENE

ONE of the most lamentably neglected branches of preventive medicine and social service is industrial hygiene. Inasmuch as industrial diseases are for the most part preventable, and industrial hygiene is essentially a part of a community hygiene, it must obviously come under the regime of the department of public health. The term 'industrial disease' embraces (1) the results of generally unsanitary conditions in factories, workshops, workhouses, and warehouses—badly lighted, over-heated, improperly ventilated, oftentimes with dust-laden atmosphere,—and trade dusts are much more dangerous and irritating than is the ordinary street dust. All these tend to lower the vitality and, therefore, the resisting powers of the body, thereby rendering the individual an easy prey to infection to which he may be exposed by close contact, possibly, with a tuberculous person, or one convalescing from some communicable disease, or a chronic carrier of some of the more common communicable diseases.

On the other hand, such environments hasten the fatal issue to the victims of some of the aforesaid diseases, who, through ignorance of their conditions, or the dangers of their environments, or through circumstances, are compelled to face the inevitable.

It has been estimated that of the deaths among 50 per cent of those engaged in industrial pursuits 50 per cent might be saved by the adoption of proper sanitary measures and proper safety devices. We also have the diseases due to occupation or trade, such as phosphorus poisoning, lead poisoning, arsenic and mercury poisoning, brass poisoning, poisoning by fumes of mineral and other acids, wood alcohol, silica, wood-sawyers, pattern-makers, furriers, upholsterers, hair-pickers, garment workers, stonecutters, those working in compressed air, and numerous other industries. Of these, lead poisoning is the most serious. There are approximately 150 trades from which lead poisoning may be contracted, therefore it comprises a very large percentage of the industrial diseases in all large cities. As Dr. Alice Hamilton, of Hull House, Chicago, pointed out at the meeting of the American Public Health Association, we are beginning to consider lead poisoning next to tuberculosis as an industrial disease. In England and European countries, statutory regulations for the protection of workmen subject to infection from lead are proving wonderfully successful.

During the last three and one-half years, the public has recognized the fact that medical health inspectors in factory communities acquaint themselves with the hygiene of the town or country, especially in the workmen's quarters. They are constantly investigating tuberculosis and other diseases dangerous to public health within the factory. The inspector knows that tuberculosis of the lungs is a common consequence of overcrowding and exposure to vitiated air and dust, including the

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various kinds of trade dust and other impurities injurious to health, which are generated in the course of manufacturing processes, and consequently pays special attention to ventilation. In such work the position of the health inspector is unique, for, with his medical knowledge, which is indispensable to the proper enforcement of the statutes, he may appeal to the medical profession on the one hand, and to the laity on the other, teaching them that the promotion of public health is a matter which concerns not only the medical profession but every profession and every citizen.

As may be expected, intimate knowledge of factory and community conditions is giving rise to facts which are invaluable, and to a proper understanding of the probable effects of industry upon the health, and of the proper solution of problems arising in connection with the work, of persons employed in industrial establishments. Time and again instances have been revealed which show conclusively that outside influences affect the health of the worker as much as or more than the circumstances of the trade. It is a well-known fact that many occupations draw their workers from that portion of the population which, if not already diseased, is predisposed by health, habits, surroundings, etc., to anæmia, tuberculosis and other disorders, the onset of which may be hastened or delayed by conditions surrounding their occupation. Detection of the prevalence of disease among factory employees is of the greatest importance, and therefore co-operation with the department of health is absolutely necessary, in the interests of public health. The medical inspectors of the factories are constantly in touch with the prevalence of disease in their respective communities, and in their inspection of factories they not only detect the infectious but the occupational diseases as well. It must be apparent then that whether we view this problem from an economic standpoint, from the standpoint of preventive medicine, or from pure humanitarianism, we must admit that it has been a sadly neglected phase of preventive medicine and sociology, the efficient solution of which must necessarily rest upon the various departments of health as a part of a community hygiene, and a principle of preventive medicine.

PREVALENCE OF VENEREAL DISEASES

Another class of preventable disease, and one that has received little or no attention up to the present by departments of health, is venereal disease. It has been estimated that the people of the United States spend over three billion dollars annually in immorality and the treatment of venereal diseases. A very large percentage of the loss of life and disablement from preventable diseases is attributed to this source. Much to the credit of the Department of Health of New York city, an ordinance has been issued requiring the reporting of all venereal diseases. In their campaign against this disease they have been using the Wasserman test, and of all cases entering the public wards of the hospitals thus far, about 20 per cent react, demonstrating that syphilis is much more prevalent than is generally supposed. This disease is the cause of a large percentage of our insane and feeble-minded. The care of the insane in the United States costs \$94,000,000 every year; the care of the feeble-minded costs \$90,000,000. Syphilis, tuberculosis and alcohol are responsible for the majority of our criminals. Criminality costs the United States and Canada six hundred million dollars every year. Ninety out of every

hundred children who become blind soon after birth are so because of venereal disease. It is estimated that 80 out of every 100 abdominal operations in women are due to gonorrhœal infection. All efforts up to the present have failed to control these diseases.

The foregoing are but a few of the figures of the evidence that might be presented as proof of the great prevalence of these diseases, and their disastrous results. Obviously, then, there seems to be no justification for any nation or any municipality longer delaying the control of these diseases. They are communicable and preventable; and are jeopardizing human life to an enormous extent. Many cities have adopted compulsory notifications, but for obvious reasons, with these diseases, as with tuberculosis, it will be a matter of education and the cases will have to be reported confidentially, either without supplying the names or by reporting by number, the number standing for identification. They should be hospitalized as far as possible, and detained in the hospital until free from infection.

EDUCATION OF SLUM DWELLERS ON BENEFITS OF SANITARY HOUSING

The housing problem is a difficulty that every department of health has to face. The city slum, with all that that term involves, is a greater social danger than the average citizen ever dreams of. Sir T. Clifford Allbutt, in a recent address, gave the following very apt simile:—"If any part of the human body is cut off from or lies outside the due irrigation of the nutritive fluids of the body, that area becomes not only useless to the body, but prone to engender a putridity which will infect even the soundest part of the system." Thus will the contamination of any one class of the people infect the rest of the social body; and, as Budd said years ago in regard to typhoid, "no one can think for a moment that these are matters in which he has no personal interest. While he may evade the duty, he can never be sure of evading the penalty of its neglect." The diseases that are propagated under slum conditions do not unfrequently affect the rich, but they thrive most among the poor, and by reason of their common humanity they are all, whether rich or poor, more nearly related here than we are apt to think. The members of the great human family are bound together by a thousand secret ties, of whose existence the world in general little dreams, and he who has never yet been connected with his poorer neighbour by deeds of charity or love, may one day find, when it is too late, that he is connected with him by a bond which may bring them both at once to a common grave.

When, from a public health view point, we speak of the influence of housing, one naturally first thinks of tuberculosis as the home disease, for in the congested conditions of our slum districts, with a close contact, one finds all the conditions favourable for the development and spread of communicable disease—ignorance, poverty, indifference and carelessness.

While practically every phase of the housing problem has been dealt with, I would like to emphasize one factor in the eradication of our slums which, in my judgment, has not been sufficiently emphasized. I refer to the personal element—the individuality. Unless we educate the slum dweller to the dangers of unsanitary methods of living, the placing of them in proper homes will not materially decrease our mortality. There are numerous factors that go to make up the large death rate of our slums, of which ignorance is probably the most potent. One finds in these districts children uncared for, improperly nourished, and with insufficient

food, the latter for the most part inferior in quality. All of these result necessarily in lowered vitality and lowered powers of resistance, and consequently an increased susceptibility to disease. I would therefore like to emphasize the extreme importance of Departments of Health educating the slum dwellers, and this can best be done by the organization of public health nurses, who have taken a post-graduate course in sanitation, social and domestic science. The diplomatic, sympathetic, public health nurse, regularly visiting the various homes of the slums, can soon make her presence felt as a friend and benefactor to the community.

This system of inspection and education will often reveal many concealed cases, especially the mild, unrecognized cases of communicable disease, and thereby materially aid the department of health in controlling their spread. The work of the public health nurses embraces social service, tuberculosis, child welfare, child hygiene, general instructions on sanitation in the home and domestic science.

SANITARY INSTRUCTION THE FIRST ESSENTIAL

It is sanitary instruction and not sanitary inspection that must necessarily constitute the true foundation of public health. The home and the family is the unit. The discipline of the nurse in her training makes her eminently fit for a sanitary instructor. Her knowledge of antiseptics and asepsis, as applied to surgery, and as more modernly applied to medicine; is a valuable asset to her in her instructions in hygiene and sanitation. There is no better medium through which the knowledge of the department of health and the department of health laboratories can filter to the public and to the man on the street, than through the instructions of the public health nurse. In this way, we can hope to democratize public health education. The department of health should take the initiative in its municipality and should secure the necessary machinery and the legislative powers required to make a thorough survey. The facts thus obtained should be tabulated and indexed, thereby constituting a basis for a housing reform. It is gratifying to note that over 100 cities on this continent have passed this initial stage and are rapidly remedying existing conditions.

Municipalities now have too much respect for their intelligence to longer say "We have no slums." One rarely hears the expression now. However, even after these facts have been obtained and publicly presented to the citizens, it will be necessary to keep up the agitation by constant reminders handed out by the department of health. As Cobden said many years ago, when endeavoring to have the Corn Laws repealed: "If you want to get anything into an Englishman's head you require to repeat it over and over again in just a little different language." Most of us no doubt have come to the conclusion that that impenetrability of the cranium is not limited to the Englishman. While building organizations, housing societies and co-partnership organizations are being established, there is much that the department of health can do to improve existing conditions. First is the abolishing of the yard closets on all streets that are sewered. Few cities have any conception of the number of these unsanitary conveniences until they have made a careful survey. We were under the impression in Toronto that we had approximately 2,000, but, after dividing the city into sanitary districts, and having a careful survey made, we discovered that we had over 16,000. Of these, 14,000 have already been abolished and modern sanitary conveniences installed;

within the next year all yard closets will be abolished on sewered streets. A difficulty encountered, however, was in the thrifty citizens, who were trying to get together a home and paying for it monthly. It was apparent that any additional expense that these people were put to would be at the cost of the table, which would be most unwise. We have consequently had an amendment to our Public Health Act, which empowers the local Board of Health to instal the necessary sanitary conveniences, when they are satisfied that the owners are not in a position to do so, and have the same charged against the property and placed on the tax roll, extending over a period of five years in half-yearly payments, making in all ten payments, charging five per cent interest on the unpaid amount.

Hundreds of houses have been condemned and placarded as unfit for human habitation. Many of these have been remodelled and others demolished.

Recognizing the extreme importance of the educative phase of this work, that inspection without instruction is but a makeshift, and that its benefits were for the most part but for a day, we have established a division of municipal housekeeping. By that I do not mean cleaning of the streets, yards and lanes, but, through women sanitary instructors, who go into the homes of the various poor, we teach them how to clean up and keep clean their homes and environments. They have frequently found it necessary to roll up their sleeves and show these people how to clean. The work accomplished by these women has been most valuable, in addition to the improved conditions of their homes. In one of the districts flowers and vegetables were found last summer in from 75 to 100 of the little back yards which had been previously filled with junk and litter of all kinds. By a system of sanitary instructions much can be hoped for in the relief of unknown misery, want and deprivation; and also in the revealing of shameful and lamentable mal-administration of charity; philanthropy, based on investigation and on endeavor to solve the problem as regards its cause, can then be substituted therefor. Many of these people, by reason of birth and environments, have neither the moral stamina or the intellect to rid themselves of their vices and shortcomings. Ofttimes they represent the best of their environments. The true philanthropy that these people require is a betterment of their environments. They require the spread of that true democracy which means that the best in life is for all the people, and if there are many incapable of entering into it then they must be helped to become capable (Ralph Barton Perry). But in this democratic nation it seems rather contradictory that 51 individual multi-millionnaires hold one-third of the entire wealth of the nation, and 450 hold nearly nine-tenths of the total wealth. A similar condition exists in the British Isles, but probably not to such an extreme degree.

In the interests of the future destinies of our nation it should be possible for every man to receive a wage that would enable him and his children to be so housed, so fed, and so clothed, as to develop the best and highest that is in him.

IMMIGRATION AFTER THE WAR

BY

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FOR the present war and for the conditions which may follow it, we have no precedent. It is therefore difficult to forecast—even more so with regard to immigration than with regard to trade and commerce—what conditions will prevail when the war is over.

The policy of Canadian governments, Dominion and Provincial, must depend largely upon circumstances as they develop. If there should be, as some anticipate, a great spontaneous efflux of population from Europe to America, the policy of our governments would concern itself with restriction and control, rather than with the encouragement, of immigration.

I do not look for any such spontaneous rush of immigrants seeking new homes after the war. If there is it is likely to be of an undesirable class or to include a large proportion of undesirables. I believe, on the other hand, that *after*, perhaps, even more than *before* the war, immigration of a desirable kind will need to be sought after and encouraged.

The question then arises as to what measures would be most effective in securing immigration of the kind desired.

Undoubtedly, the most desirable is the man who will settle upon the land and cultivate it. The produce of the land is the chief source and foundation of all wealth and the development of our agricultural resources should be the main consideration in any immigration policy.

Ever since the opening up of the western prairies the Maritime Provinces have been at a great disadvantage in competing for immigration with the western provinces, for the reason that our best agricultural lands are heavily timbered and, to the European emigrant, the attraction of a farm which he can turn over with a plough and get a crop from the first year, is almost irresistible, as compared with one which he must laboriously hew out of the forest, with years of patient toil.

New Brunswick, as a province, starts in the race badly handicapped. This handicap should not be increased by lavish expenditure in advertising the western provinces, at the expense of, or to the neglect of, the provinces by the sea. The disadvantage I have spoken of has been, to a certain extent, overcome by the increased cost of land in the west, where desirably situated.

Privately owned but uncultivated prairie land now costs about as much per acre, I am told, as cleared and improved farm land of good quality can be purchased for in this province.

For the farmer with capital, who can buy and equip an improved farm, therefore, New Brunswick is able to offer inducements that will compare favourably with those of other provinces.

The bulk of agricultural immigrants, however, are homesteaders, men with little or no capital, to whom the principal inducement to emigrate is the prospect of a free grant of land, or the acquirement of a farm at nominal cost. It is this class we must depend upon for any considerable access of population that will develop our agricultural resources.

As to financial means to secure this class of immigrants, I think a large portion of the Dominion Government expenditure on immigration might, with advantage, be divided, in fair proportion, among the different provinces, to be administered by the provinces according to such plan as might seem to each provincial government best adapted to its special conditions. Each province, however, would account to the Dominion Government as to expenditure of the grant.

With regard to provincial policy, it should seek, first of all, not by extensive and costly advertising, but by personal selection, through provincial agents and through agencies and organizations, such as the Salvation Army, a desirable class of immigrants; men by preference who have had experience in the cultivation of the soil or, at least, men who desire to settle upon and cultivate the land.

I am not in favor of assisted passages, as a general policy, because the tendency of that policy is to induce an undesirable class of immigration. Money should be expended in preparing for the immigrant's reception and in aiding him to become established after his arrival, rather than in bringing him here.

As to preparation for immigration, one of the first needs is a thorough survey of all government lands available for settlement. A survey that shall take account of the physical characteristics of the country, the quality of the soil, water supply, laying out of farms of such size and shape and in such a way as to conduce to economical operation, laying out of roads with a view to economical transportation, etc., so as to ensure that the man who goes into the wilderness to carve out a farm will be ultimately rewarded for his labour, and will not find that he had been located on some barren rocky ridge that might have been more profitably devoted for all time to the growing of timber. Through the lack of such preparation in days gone by, there are, hundreds of farms in New Brunswick at the present day upon which the owners, by laborious toil, are scratching out a bare subsistence, and which would yield a better profit if devoted wholly to the production of spruce timber.

As a contrast to cases of this kind there are the comparatively recent prosperous settlements of Glassville, Carleton county, and New Kincardine, the Danish settlement, and others in Victoria county. The National Transcontinental Railway will, I believe, give access to some extensive areas of desirable land in the north central part of the province.

The late Edward Jack, Provincial Crown Lands Surveyor, stated some years ago that there was a belt of land a hundred miles wide stretching right across the northern part of this province, nearly all of which was suitable for settlement, and which was similar in character and as good as that of Carleton county or of Aroostook county, Maine.

I have spoken of aiding the immigrant. Aid might be given him, first of all, by clearing or helping to clear his land. Experienced men with modern appliances can now clear land very rapidly and at moderate cost. It is not necessary, as in older times, to wait 20 years for stumps to rot, but with the aid of stumping machines and dynamite they are taken out root and branch while green. Gangs of settlers, under the direction of skilled government foremen, could be employed at this work. To those who needed it, employment might be given a portion of the time in road making, the idea being to aid them by affording an opportunity to earn fair wages at useful work, beneficial alike to themselves and the province.

I do not think the purchase by the Government of so-called improved farms for re-sale to immigrants has proved to be a wise policy.

Many of the farms so acquired are old worn-out farms, upon which a new settler, unused to the country and climate, finds it difficult to make a living, and in most cases it merely displaces one farmer to make way for another who is less efficient. A Government bureau, supplying information with regard to improved farms available for purchase, may be advisable, but, apart from that, the buying and selling of farms could with advantage be left to private enterprise and negotiation. Immigration authorities, however, should strongly advise all intending purchasers of farms to be in no haste. It would be much to the immigrant's advantage, in most cases, to spend a year or two working on farms and becoming acquainted with the country, the climate and other conditions, before making any investment. Occasionally, a possible purchaser might be lost in that way, but far greater detriment to the province is caused by the adverse advertising of the man who becomes dissatisfied or makes a bad investment and blames the province for his own mistake.

To summarize, the main features of the immigration policy I would suggest, are as follows:—

Financial aid to the province by the Dominion for immigration purposes.

Personal selection and solicitation of emigrants by qualified agents in the British Isles, the Netherlands and the Scandinavian countries.

Setting apart for settlement of suitable Government lands and the acquisition, if necessary, of privately owned wild lands.

Preparation of rural development schemes, in which land would be classified and laid out in farms of convenient size and shape, having regard to physical features, ease of transportation, economical operation, access to highways, social facilities, etc.

Bona-fide settlers to be given free grants of land, subject to conditions as to improvements to be made, continuous occupation, etc., title to be withheld until conditions are complied with.

Settlers with limited resources to be aided during first year or two by employment at reasonable wages in clearing land, building roads, etc., under direction of expert foremen in Government service.

No reference has been made to returned soldiers, because this paper was intended to relate solely to the subject of immigration, and the returned soldier cannot be regarded as an immigrant. I recognize, however, that our own people, the sons of our own farmers, make the best of all settlers, they are better qualified than any European immigrants we can get to develop our latent resources, to turn to account the great agricultural possibilities of the province, and to make the wilderness blossom as the rose.

PROGRESS OF CIVIC IMPROVEMENT AND TOWN PLANNING IN CANADA

NOVA SCOTIA

HALIFAX—The Civic Improvement League of Halifax continues to do active work in promoting better civic conditions and improved housing in that city. Owing to the use of Halifax for military and naval purposes during recent years, a great deal of prosperity has come to the city. This has meant that housing accommodation has become scarce and dear. As might be expected during a time when capital is difficult to obtain for building purposes, private enterprise is not meeting the demand for increased accommodation and the consequent scarcity of a supply of dwellings is

causing much overcrowding. Having regard to its causes, such a situation should not be permitted to develop without some assistance and guidance being rendered by government authorities to prevent injury to public health. Physical and moral deterioration and an increase in the death rate are the usual results of overcrowding; and it is therefore all the more to be deplored that overcrowding is so often the result of prosperous times.

The Halifax Civic Improvement League has interested itself in promoting a housing company, to meet a small portion of the demand for increased accommodation for the working classes in the city. A company has been formed and steps are being taken to raise the necessary capital for the erection of a considerable number of houses. The president of the company is Mr. J. H. Winfield, manager of the Maritime Telegraph and Telephone Company. Mr. R. M. Hattie, secretary of the Civic Improvement League, is secretary. The company proposes to start operations with a capital of \$140,000, of which \$50,000 is being raised in shares. A site has been offered to the company, free of cost, through the generosity of a Halifax citizen. The designs of the cottages have been prepared by Mr. A. R. Cobb, and show four-roomed frame detached houses, to be let at a rental of \$3.50 per week. This rental will provide a gross return of 11½ per cent on the capital cost and a net return of 6 per cent after payment of sinking fund, taxes, etc.

Meanwhile the City Council and the Board of Health are endeavouring to cope with the difficulties caused by overcrowding in existing buildings and by the continued occupation of unsanitary homes. In April last drastic legislation was passed, giving power to the Board of Health to prevent the occupation of unsanitary property. The following clauses indicate the character of this legislation:

"17. The City Health Board may make by-laws to prevent the overcrowding and unsanitary condition of tenement houses as defined in section 777, and may also make by-laws requiring the owner, agent or lessee of any such tenement house to make such statement or return respecting the character, occupation, rentals or other matters and particulars respecting such tenement houses as the board deems fit.

"18. Section 863 is amended by adding thereto the following subsection:—In place of ordering any premises to be vacated under this section the Board may in its discretion declare such premises to be in an unsanitary condition and that no rent shall thereafter become payable by an occupant thereof until such unsanitary condition has been remedied to the satisfaction of the Board. Upon such declaration being made and served upon the owner, agent or lessee of the premises, no action, distress, or other proceeding for the recovery of any rent accruing after such declaration and before such unsanitary condition has been remedied shall be taken or be legal, nor shall any tenant be evicted or expelled for non-payment of any rent claimed for such period, and in addition to any remedies or defences at law possessed by any person any such owner, agent or lessee attempting to put in force any warrant of distress or to evict any such occupant for non-payment of any rent accruing for such period shall be liable to a penalty not exceeding fifty dollars and in default of payment, to imprisonment for a period not exceeding one month."

Such legislation is, of course, only likely to be effective and equitable if it is carried out with due regard to the fact that tenants are themselves sometimes responsible for creating unsanitary conditions during the course of their tenancy. No one can have any sympathy with owners of unsanitary property who are denied the opportunity of collecting rent on such property, but to make a law of this kind enforceable, it is essential at the same time, to protect owners from the vandalism of bad tenants.

The preparation of a town planning scheme for Halifax is proceeding in stages and considerable progress has been made. The official plan already gives the council power to control building lines and certain developments, while a zone plan defining a considerable area for residential purposes has been adopted by the council. The preparation of a comprehensive development scheme for the unbuilt-upon portion of the city is still under consideration.

HALIFAX COUNTY—The Town Planning Board of the municipality of Halifax county has one of the finest opportunities in Canada for controlling new development. In several parts of the county area adjoining the city of Halifax building operations are in progress as a result of new industries being established. Part of the county area has been occupied for some years by the development surrounding the Acadia Sugar Refinery; near that there is now being built a large industrial plant by the Imperial Oil Co., and there is a prospect of an important development in connection with ship-building. These developments, in time, will be responsible for setting up a number of small towns near Halifax, and the county board is taking the necessary steps to secure that these towns will be properly planned. There are also two attractive and popular residential areas in the county, and the importance of preserving the amenities of these areas is also being realized by the county authorities. It will be necessary for the

County Board to prepare several schemes, and immediate steps are to be taken to select suitable areas for the boundaries proposed to be planned. The Board is fortunate in obtaining the full co-operation of the large owners of the industrial plants in its efforts to prepare a good plan of development.

TRURO—The annual meeting of the Nova Scotia Union of Municipalities was held in Truro on August 29-31, and was attended by representatives of about 70 per cent of the municipalities in the province. An address on "The planning and development of land" was delivered by the Town Planning Adviser of the Commission of Conservation, and the following resolution was passed:—

"Whereas, it is desirable that the natural resources, including the land, of the province should be further developed and put to best economic use; and

"Whereas, it is necessary, for the proper and closer settlement of the provincial lands, that they should be surveyed, classified and re-planned; and

"Whereas, it is desirable that better facilities should be provided for rural credit, co-operation, and education in small towns and rural districts; and

"Whereas, it is desirable to encourage the development of manufacturing in small towns and rural districts by the utilization of water-powers and other natural resources and by preventing land speculation, and

"Whereas it is necessary to make provision for returned soldiers and new immigrants in both agricultural and manufacturing pursuits according to a carefully planned scheme of development:

"It is resolved to recommend the Provincial Government to prepare the way for the purpose of securing the proper and economic development of its resources, by making, forthwith, a comprehensive survey and classification of the lands and other resources; and by considering methods to promote more intensive cultivation, closer settlement of fertile lands near to existing means of communication, better planning of land and other things necessary for the above purposes."

PROVINCIAL HIGHWAY ADMINISTRATION—For a long time there has been considerable dissatisfaction in Nova Scotia regarding the system of statute labour in operation in connection with the maintenance of highways. The question of securing better roads and improved highway administration has been brought prominently forward in recent years as a result of the development of motor traffic. The province has made a forward movement in a new Act respecting public highways, which was passed in May last. The Act provides for setting up a Provincial Highway Board, to consist of not less than three members. The duties of the board shall comprise the collection of information regarding the highways of the province, the laying out, planning and classifying of roads, and the controlling of the construction and maintenance of all roads in the province. A provincial highway fund is to be set up, to include sums voted by the Legislature, all fees collected under the Motor Vehicle Road Improvement Fund Act, all sums contributed by the Federal Government, and the proceeds of taxes levied under the Act. The latter include a tax at the rate of 1-10 of one per cent on all property and income ratable for city or town purposes, and a poll tax to be levied and collected in every municipality. The change which is affected by this new Act is indicated by the schedule under which no less than 17 previous Acts of Parliament were repealed. This improvement in the highway administration of Nova Scotia is likely to open up a new era in highway improvement in the Maritime Provinces, which are greatly in need of better means of communication by road.

NEW BRUNSWICK

ST. JOHN—Further progress is being made with the preparation of the St. John town planning scheme. A draft scheme has been drawn up by the Town Planning Adviser of the Commission of Conservation, who has also made a general survey of the area for the purpose of making recommendations regarding the main lines of communication. The draft scheme is now being considered by the Town Planning Commission of St. John and it is hoped to have it completed during the coming winter.

QUEBEC

MODEL TOWN PLANNED IN NORTHERN QUEBEC—An influential Canadian company has acquired a site on the Upper Ottawa for the building of a large sulphite mill and paper plant and the opportunity is being taken to develop a model town adjacent to the mill site for the housing of the employees of the company and others.

A splendid site has been chosen for the town, which is being laid out according to modern principles of town planning.

The plan of the town has been prepared by Mr. Thomas Adams of the Commission of Conservation, with the assistance of Messrs. Ewing, Lovelace and Tremblay of Montreal, who have done the surveying on the ground, and Messrs. C. H. and F. H.

Mitchell of Toronto, who have prepared a plan for heating and lighting. Houses will be erected from designs prepared by leading architects.

As a preliminary to the preparation of the plan a contour map showing the levels of the site was first prepared and the streets were then laid out so as to secure easy grades, directness of route and absence of sudden deflections. If the usual method of rectangular survey had been adopted the most important streets would have had a grade of from 10 to 18 per cent, but under the plan the grades have been reduced to from 3 to 5 per cent in most cases with a maximum of 8 for short lengths.

Before any buildings have been erected the line of each street has been blazed through the forest so as to fix the best street locations and to secure the best aspects for the dwellings. Areas are being set aside for open spaces, social centers, churches, schools, etc., in advance. The main approach to the town will be by a street 80 feet wide passing through a square on which the stores and public buildings will be erected.

It is proposed to make the town a model of its kind, as it is recognized by the promoters that healthy and agreeable housing and social conditions are of vital importance in securing efficiency of the workers, and that large employers of labour have a direct responsibility in providing proper shelter for their workers. It is unfortunate that similar steps have not been taken in Canada, as in Britain and the United States, to provide good accommodation for workers in connection with munition and other industries, which have recently been developed under the stimulus of the government. According to Colonel Carnegie, ordnance adviser of the Imperial Munitions Board, the skill which has been acquired in Canada in connection with war work will be of great value in peaceful commercial industries in time of peace for the expansion of Canada. Physical deterioration is, however, going on among those who are engaged in developing this skill for want of attention being given to the planning of community life and housing, thereby creating a great loss in a valuable by-product of the war. The example of this company might well be followed by other large corporations as a matter of enlightened self-interest as well as for the public good.

ONTARIO

RENFREW—Further progress has recently been made in the preparation of the plans of the town of Renfrew, by the Town Planning Adviser of the Commission of Conservation, following a survey of the natural features of the land surrounding the town. Mr. Thomas Low, a citizen of Renfrew, has generously offered to donate \$5,000 for the purpose of laying out the Market Square, in the centre of the town, and Mr. A. V. Hall, landscape architect, of Toronto, will prepare the design.

HAMILTON—During the past few months considerable progress has been made in connection with the preparation of a plan for the city of Hamilton. The first step consisted in the making of a map showing the existing physical conditions and buildings. This was followed by the preparation of a plan of the railway system of the city and surroundings. It was fortunate that certain new proposals, in connection with railway extensions within the city, caused the city authorities to realize the importance of obtaining a report from experts with regard to what should be the best system of railway development. As a consequence, Mr. F. W. Tye and Mr. N. Cauchon were appointed to make an investigation and report on the whole railway situation in the city. The result has been the preparation of a valuable report in which important recommendations are made to improve the system. The plan has been received with considerable favour by the citizens of Hamilton and will, no doubt, be carefully considered by the railway companies in connection with future extensions. It will now be possible for the city of Hamilton to proceed to the next stages of the preparation of its development scheme, although it will be hampered in doing so owing to the absence of suitable planning legislation in Ontario.

LONDON—The annual meeting of the Union of Canadian Municipalities was held in London, Ont., this year, and the chief attention was devoted to "win the war" resolutions. A full report of the meeting was given in the *Canadian Municipal Journal*.

SASKATCHEWAN

The Draft Town Planning Act, which has been prepared and printed, is being further considered by the Deputy Minister of Municipal Affairs and the Legal Adviser of the Provincial Government in consultation with the Town Planning Adviser of the Commission of Conservation. An effort is being made to include in the proposed Act clauses to make the Act more comprehensive, so that it can deal more effectively with rural development and regulate the planning of farm land in connection with settlement of rural territory.

INCREASE OF WEALTH AND POVERTY

HOW is it, it may be asked, that while our wealth is increasing poverty and misery are increasing also? To this some will reply that there is a tendency in population to increase faster than wealth. If so, we must submit. But we must also ask may there not be certain errors in our economical system which prevents wealth from accumulating as fast as population? For throughout all the works of creation the means are so well adapted to the end that we may naturally suppose it must be the order of nature that these two should progress together, and that in any country where they do not it must be the consequence of not following Nature's laws.—HUXLEY.

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CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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LIVING CONDITIONS ON WESTERN FARMS

IN a letter commenting upon the report on *Rural Planning and Development* by Thomas Adams, recently published by the Commission of Conservation, a gentleman prominently identified with financial conditions in the Prairie Provinces, and especially with the handicaps of homesteaders and settlers in establishing themselves in homes under satisfactory living conditions, has this to say:

"I feel very keenly that some such organized effort to improve living conditions on the farms in the Western Provinces of Canada is essential to the development which the Dominion looks forward to.

"Personally, I am much more in favor of making living conditions acceptable to thrifty, enterprising settlers than to giving these settlers direct aid, because I feel that the right sort of settlers will make their own way, if the environment is endurable.

"I have been impressed on my frequent trips through the more outlying sections of Alberta, with the fact that the chief handicaps to progress on the part of the farming population are not the natural resources of the country, *but the unorganized and insufficient systems of marketing, transportation to market and certain necessities of life, such as medical attention.*

"To illustrate my point, and not because of the location of the district, I would refer to the section of Alberta lying directly west of the city of Red Deer, along the new lines of the Canadian Pacific and Canadian Northern, between Red Deer and Rocky Mountain House. This section of Alberta was quite largely homesteaded prior to the coming of the railways, *by a class of homesteaders who are, on the whole, ambitious, thrifty and able to withstand the natural hardships.* They included farmers from established sections of Oregon, Washington and other states as well as emigrants from Scandinavian countries and Finland. *The natural conditions are all that could be desired for mixed farming,* the soil being rich and the country well watered, with plenty of shelter. There is also an abundance of rough timber and firewood and a great profusion of natural grasses. These natural conditions attracted the early settlers to such a point that the country was practically all taken up. *Even with the coming of the railroads, there has been practically no advance in land values for seven or eight years, and the development of the section has been decidedly backward, as compared with other parts of Alberta,* although the officials of the railroads operating there, admit that traffic has been considerably heavier than they expected. I have always felt that this was a section that had been overlooked, but there are, nevertheless, conditions which have handicapped the development of the

section other than the mere accident of location. For example, we are getting more complaints from farmers in that section than from any other neighborhood. Inquiry among farmers and store-keepers last summer revealed the fact that there were very few competent doctors west of Red Deer, and that farmers and their families find it difficult to get medical attention, in case of need. This, of course, is a particularly serious and vital defect in the social organization of the community. This section of Alberta has considerable areas of low lying land and although an effort is being made to improve the roads, they are not yet what they ought to be and require expert handling, under organized management, rather than the haphazard local treatment they are now getting. In fact, Alberta would gain greatly if her taxes for road improvements were expended through a centralized organization, rather than by local boards. There is also the vicious principle of allowing farmers to work out their taxes.

"In looking over a review of your Report, it occurred to me that some such district as I have spoken of west of Red Deer could be taken as an example and attention devoted to it, with a view to improving conditions there, where they can be improved, and that this action would be a very valuable object lesson of what can be accomplished in other rural districts.

"The problem may be a great deal more complex than it appears on the surface, but it is certainly worth the while of those interested in the country, to do what they can to keep the settlers who are already on the ground contented with their lot, since it is far easier to keep them on the ground than to get new ones."

ANGLO-FRENCH TOWN PLANNING IN 1298

When Henry II of England married Eleanor of Provence the union brought certain French territory under his crown. In succeeding years Henry was continually struggling with Louis IX for supremacy in Southern France and both monarchs planned and founded new towns as bases for military operations.

In 1298 Edward I wrote from Bordeaux to London asking the authorities to send them four competent town planners—"those who best know how to divide, order, and arrange a new town in the manner that will be most beneficial to us and the merchants."

Montpazier in the department of the Dordogne is said to be the best example of these towns—and others laid out by Edward were Libourne, Sauveterre, Monsegur and LaLuide.

In Canada, where the two peoples have enjoyed the entente cordial and have intermarried and contributed to each other's genius and strength over so many centuries,—with sundry and passing breaks caused by political ambition and not by racial animosity—may we not derive inspiration from the early Anglo-French town planners of old France, and seek to "divide, order and arrange" our cities and towns in the manner that will be most beneficial to the commonwealth.

NEED FOR GOVERNMENT ORGANIZATION OF LAND SETTLEMENT

By

GEORGE PHELPS, TORONTO

CANADA is, first and foremost, an agricultural country. Her prosperity depends also upon the produce from other primary sources, such as forests, mines and fisheries. A glance at the trade reports for 1915 and 1916 shows, however, that by far the most important is agriculture.

An article in the *Monetary Times* for January, 1916 (p. 28), gives a statistical analysis of Canada's primary production for the past six years, and summarizes the conclusions derived from an investigation of the preceding five-year period, ending 1914, as follows:—

"1. That production from natural resources in the five-year period considered increased but little, and did not keep pace with industrial and commercial expansion.

"That its failure to do so helped to bring about and maintain a general business depression.

"2. That the population increased faster than the production of foodstuffs and other raw materials.

"That such excess was undesirable and a component part of the cause given above for the decline in our prosperity since 1912. And further, that until immigration could be made more productive it was not desirable."

These conclusions were based on figures obtained from *Canada Year Books*, the departments concerned or Census and Statistics Office, Ottawa.

The article further gave figures to show that the campaign for increased production in 1915, together with a good harvest, sent the figures for the total wealth produced from primary sources, above the billion-dollar mark for the first time in the history of the Dominion. Although the crops were less in 1916, prices were higher, and this figure was again reached; there is, however, likely to be a further falling off in production, due to a scarcity of labour on the land, and it is necessary that we should use every means in our power to overcome this shortage by increased efficiency, at the same time bearing in mind a possible return of surplus labour conditions after the war.

This question of bettering our agricultural conditions and increasing our primary production is intimately connected with the problem of rural depopulation and the present unhealthy growth of large towns, and it is probable that if we can satisfactorily solve the first problem, the other two will to a very great extent solve themselves; therefore, it may be said with certainty, that there is no more important question which can be taken up at the present time.

DEPENDENCE UPON PRIMARY INDUSTRIES

For many years our rural population has been stationary or decreasing, whilst towns have been growing at an enormous rate; in other words, we are realizing one of the conclusions arrived at in the article mentioned above, that the population has been increasing faster than the production of foodstuffs and other raw materials. There is a limit to such a process, which we appear to have about reached, for, however

much we may stimulate manufacturing industries in the towns, we depend entirely for the supply of raw materials of food and clothing on the primary industries, and our expansion in other ways is limited by that supply.

There are, of course, many industries carried on in the towns which are helping primary production in such a way that they could not be dispensed with, such as the manufacture of machinery, the manufacturing and distributing of farm products, the railway and transportation business and so on; but so far as there are trades and businesses carried on which are not helping this production, but which are attracting and keeping round them large numbers of potential producers, who, under these circumstances, are mainly consumers only, to this extent is the growth of our towns unhealthy and our useful production lessened by at least the value of this labour. The floating population of unemployed living in the towns in normal times represents consumption also and so much loss of production.

Without a doubt, we have been saved for the past two winters, but perhaps only temporarily, from a very serious unemployment problem, by the fact that so many who would otherwise have been out of work are now engaged in the war, either as soldiers or workers on munitions. But what is to happen when the war is over? That question is frequently being asked, and it surely is a very serious question, and one which we must set about very seriously to answer as early as possible; we should begin at once to consider how we can induce all these men to become producers as soon as they are again at liberty, for only in this way can we pay or make up for the tremendous wastage which is now going on.

Whether the number of immigrants is large or small after the war, there will be a large body of men needing work, and it is imperative that a fair proportion of them should be employed on agricultural work, in order to keep the balance between production and consumption.

HELP THE SETTLER TO HELP HIMSELF

Never has there been a time when the need of production of the necessities of life was so great as at present, when so much is being consumed by the great war; and, in order to utilize to the utmost our available energies in making up for this wastage, our first step must be an organization and concentration of our agricultural industries, the necessary capital for which must, at least in part, be supplied by the Government. Even in the best of times we know that settlers have usually to borrow capital, often at high rates of interest, so that frequently their home, their goods and their labour are mortgaged for many years of their lives. This nearly always means that they are hampered in their operations, and production suffers because they refrain from getting necessary implements and carrying out improvements which, though badly needed, would mean still further borrowing. The present system of land settlement is also wasteful, in that it enables and encourages the holding from use of large areas of the best farm lands by speculators who are waiting their time for higher prices and profits on the sale of farms. On the other hand, agents, who are only interested in getting their commission by selling farms, are often able to induce settlers to take up land that is of little use for farm purposes and which is soon abandoned. By such means agricultural production is hindered and settlers discouraged.

Fictitious values, too, are often placed on the timber standing on the land, and the unwary settler finds, when it is too late, that the value is practically nil; sometimes it may be just suitable for pulpwood but so situated that he cannot get a market for it. Dr. Fernow, in his report on the Clay Belt of New Ontario, along the 200 miles of the National Trans-continental Ry., pointed out to the Commission of Conservation, in 1913, that "probably 50 per cent of the area involved does not contain any wood values, and that probably the same percentage of it is, under present conditions, undesirable for open settlement," also, "many a settler will be misled into taking up unsuitable lands, and the experience of old Ontario (or the Trent watershed) will be repeated, namely, of abandoned farms or else a degenerated population."

Amongst all the causes which are tending to defeat the object which we have in view, that is, the placing of the right settlers on the land and increasing the production from the soil, perhaps the most serious is, that, consciously or unconsciously, we lay stress on the speculative side of land ownership rather than on the value of the land for what it will produce; in doing which we are appealing far too largely to a class of settler who will put in his stipulated amount of residence and clearing of the land, with the chief object in view of selling out as improved property as soon as possible after obtaining his patent rights.

PRESENT LAND SYSTEM MAKES SOCIAL INTERCOURSE DIFFICULT

There is also an inducement for settlers to take up more land than they can properly work, or have capital to manage, with the idea again in view, that a part can be sold at a good profit later; this has a tendency to throw the farmers farther apart from each other. Another factor tending towards the same result is that where land is sold by agents it is to their advantage to make sales scattered over as big an area as possible, with a view to future sales; the whole system, in fact, tends to scatter rather than concentrate the farms, and it is hardly to be wondered at that men leave the land for the towns under a system which has a constant tendency to make social intercourse more difficult than it need be.

All this points very strongly to the need for a better system, for it is evident that, with all the energy expended, our present system of land settlement and tenure, even under normal conditions, does not offer sufficient attraction to the right class of settler, and does not induce or enable all those to remain on the land who would wish to be farmers, otherwise our rural population would be increasing rather than decreasing. It is the system of settlement, or something closely allied to it, that is at fault, and not the lack of fertility of the soil.

We need some change which will make agricultural work more attractive and more profitable for the ordinary settler of small means.

In considering any system of land settlement in this country, and particularly in Ontario, which has for its objects increased agricultural production and retaining on the land more of the right class of farmer, the writer considers that special consideration must be given to the following fundamental requirements:—

1. The selection of suitable farm lands
2. The elimination of the speculative element
3. Organization and concentration
4. The improvement of facilities for social life

5. The supply of capital to farmers
6. Security of tenure.

GOVERNMENT SHOULD ESTABLISH FARM HOMES FOR RENTAL

To meet the above requirements it is suggested that the Government should first select a portion of Crown lands suitable for development and obtain an expert survey for the purpose of deciding which portions are suitable for open settlement and which require re-forestation. A plan should then be prepared, showing the proposed farms of any reasonable size that may be decided on, with the locations of the homesteads, the roads and all transportation facilities. The clearing of the farm sites should next be proceeded with, on a properly organized basis, by Government-owned machinery and under Government control. The clearing of the farm sites could also be carried out in conjunction with a system of re-forestation where required, as the two operations could be most economically carried out together. Homesteads for the farms should also be built by the Government, arranged, as far as possible, so as to form small communities; the arrangement of the farm houses in groups would have considerable value from the social point of view. These farms should then be rented out to settlers at as low rental as possible, with absolute security of tenure. Government loans to the farmers for the purchase of stock and implements should also be arranged; and all farms should be subject to Government inspection.

The suggested scheme would eliminate some of the disadvantages of our present methods, and meet the requirements previously mentioned in the following manner:—

1. Intending settlers would have the assurance of the Government that the farms were suitable to their purpose, and would not be running the same risk as at present if they selected farms without first inspecting them. Under the present system, settlers are too much in the hands of often unscrupulous agents, and are frequently persuaded to take land that is of little use to them. It would be, in every way, to the advantage of the Government, however, to select only the most suitable lands, so that they might not be at a loss in having poor farms on their hands. The lumber values would be made the most of, as this would be all handled by the Government and would go to offset the cost of clearing and making farms.

2. The suggested system would attract only those people who intended settling on the land and making a living by the agricultural produce, and these are the only useful settlers; there would be no inducement or possibility for speculators to take up land and hold it out of use, or farm it for a short time with the idea of selling again at an enhanced price as improved land.

3. From the point of view of economy, there would be a great advantage over present methods, in that there would be an organization of forces for the purpose of developing large areas in a systematic way. By the use of suitable machinery, clearing work, stumping and breaking the land would be done at a fraction of the present cost, and intending settlers, skilled or unskilled, could be provided with immediate employment on this work until they were placed on proper farm work. Incidentally, also, this should be extremely useful work in the relief of

unemployment at times, when combined with road-making and reforestation. The concentration of farms, instead of the promiscuous scattering under the present method, would tend towards economy of roads and transportation facilities; and would lessen to a tremendous extent the risk from forest fires, as the houses would be arranged in small communities within a large cleared space. It would be possible, too, and probably more economical, to serve each group of farms from one common water supply, which would tend to improve the general sanitary conditions.

4. One generally recognized drawback to the farmer's life, *viz.*, the lack of facilities for social intercourse, would be considerably lessened by a reasonable grouping of the farm houses. Widely scattered, as they sometimes are, it is no wonder that, after spending many years in an isolated position, the farmer—and particularly the farmer's wife—is glad to give up and come into the town as soon as he has managed to get together a small amount of capital. A properly organized and planned scheme of settlement should do much to make the life less lonely than it is at present. It is useless to expect such concentration under the present method of working, as each individual is thinking only of his particular farm, and not considering it at all as part of an organized system.

5. The work of clearing the land and building the homestead represents a considerable amount of capital to the settler, and the provision of this by the Government would put him in a much better position for commencing actual productive work; it would, of course, have to be paid for in the shape of rent. But even this help is none too much, for there are many settlers who come to this country with the idea of farming who have practically no capital at all, and it would appear to be necessary to provide capital at low rates of interest on long term loans, to enable farmers to provide the necessary implements and stock. This capital is now often provided by machinery firms and money lenders, to whom the farmer pays a rate of interest considerably higher than would be necessary for the Government to charge. The loans could be made up to a certain percentage, say 75 per cent, of the improvements made by the farmer in such a way as to protect the Government from loss; possibly on a similar plan to that which has been carried out successfully in New Zealand for many years.

6. Security of tenure to the farmer is a most important matter; the lack of this is one of the greatest evils of the landlord system in Britain, and, perhaps, has much to do with the feeling that in this country, come what may, a farmer must own his farm. The farmer must be able to feel that he can remain in undisturbed possession of his farm, or he cannot be expected to put his best into it, and there is no reason why this should not be fully assured to him under Government ownership.

A splendid suggestion was made by Dr. G. C. Creelman at the meeting of the Civic Improvement League in Ottawa on January 20th, 1916. It was, in effect, that Government farms should be started where intending settlers could get work at a moderate wage, and have actual experience of Canadian farming under expert supervision; it would have the effect of enabling those who found that they were not suited for the life, to get out of it again before they became tied up to a business which, for them, might mean failure. These, what may be called, school farms would work in well as a part of the suggested scheme. The intending

settler could first get employment on clearing and road work, then go on to the school farms for a time before taking over one on his own account; winter lectures and demonstration work by experts would also help to give those adapted for farming a really practical knowledge of the work.

The initial expenditure for carrying out such a scheme as that outlined would be considerable; this would, however, be counterbalanced by the increased agricultural production, and the rental value of the farms and timber values, due to re-forestation, would, also, in a short time, be sufficient to make the scheme self-supporting.

PROPOSAL FOR A MUNICIPAL BUREAU OF VACANT HOUSES IN CITIES

TO assist those who are in need of suitable housing accommodation, a Municipal Housing Bureau might prove of great value. At such a bureau a register might be kept of all vacant houses and apartments, with full particulars as to the accommodation, rental, etc. Photographs of the houses would not necessarily be required but would frequently be supplied, and this would be a further advantage in facilitating a suitable selection of houses, and limiting the time spent in examination. In cases where houses are in great demand, registration at the bureau might be made obligatory. A small charge (probably not exceeding twenty-five cents) made for each registration would cover the cost of administration. By this means workmen could learn without difficulty, expense, or loss of time, the condition of the housing market in all parts of the city. The advantages which would result from having this information are obvious. The number of houses available at each rate of rental would indicate from time to time either a surplus or deficiency of particular types, and in this way the bureau would be of value to builders, and the supply of houses of all types could be more nearly equated to the demand. Housing conditions would no longer be the subject of uninformed discussion. Information as to the true condition would be always available. The evils of unfairly high rentals in one district would be overcome if vacant buildings were available in another equally satisfactory district. The registration form might require information as to sanitary conveniences and interior decoration. The effect of this would be to improve the general condition of the houses, as those in the best condition would, of course, secure tenants most speedily.

As one of the objects is to save the time of those for whom time is money, the regulation requiring registration might apply only to moderate and low-priced houses. The task of securing a new home generally falls upon the mother of the household, and not infrequently this involves a weary task of walking about from place to place carrying the youngest member of the family and neglecting pressing home duties. This could be largely obviated by a carefully planned system of public registration of vacant houses.—G.F.B.

EARLY CIVIC IMPROVEMENT LEAGUES

THE Civic Improvement League of Canada, which was formed in Ottawa in 1916, was not the first of its kind. An association called the Canadian League for Civic Improvement was formed in Toronto many years ago. In a paper dealing with the League and its object, read before the Woodstock Horticultural Society by Major George R. Pattullo, honorary field secretary of the league, it was stated that the League comprised a representative body of Ontario citizens, and the intention was that it should cover the entire Dominion. Its object was stated as being to promote outdoor art and public beauty, and town, village and rural improvement.

More tree planting and better-kept boulevards, parks and play grounds, improvement of structural beauty in public buildings, erection of statues and fountains, the provision of gymnasiums, the improvement of railway station grounds, cemeteries and vacant lots, provision of better sanitation, artistic treatment of public advertising, etc., are referred to by Major Pattullo as among the things which should be dealt with by local branches of the league in cities and towns. In rural districts it was proposed that the leagues promote better roads, improve drainage and fences, tree planting, improve home surroundings and better architectural treatment of bridges, buildings, etc.

The unattractive rural school-houses are referred to, and the fact is noted that the rude surroundings of the school-house would create a bad impression on the children. Complaint is made about the neglected and uncared for church buildings in rural districts and the absence of care upon the part of the citizens in improving the surroundings of their places of worship. It is advocated that rural municipalities should have their public park as well as cities and towns. Among other civic reforms which are referred to as important are the improvement of the system of collecting garbage and the cleaning of lanes and alleys.

From Major Pattullo's paper it would appear that the organization had intended to deal primarily with the artistic improvement of cities, towns and villages, although mention is made of several matters directly connected with public health, such as sanitation and public parks. The league does not seem to have survived any length of time, but information is not obtainable as to its history and achievements.

In Hamilton the Civic Improvement Society was organized in 1900. The object of the society was stated to be the promotion of improvement in the cleanliness and beautifying of the city. According to the printed information regarding the society, it was under the management of an executive committee, with Mr. R. Tasker Steele as president and Mr. C. O. Dexter as secretary. Citizens were invited to pay one dollar for membership and attention was called to the need of making a healthful and beautiful city and improving the city churches, schools and public institutions by planting trees and laying out gardens and boulevards. A booklet was issued, containing a list of the city by-laws which affected the comfort and convenience of citizens and the appearance and cleanliness of the city. It was also stated that "any complaints of neglect of these by-laws, sent to this society, and signed with the name and address of the complainant, will receive attention; such name and address being treated as strictly confidential."

The by-laws deal with such questions as the cutting of noxious weeds, of obstructing sidewalks, and littering alleys. Information is given in the booklet relative to fire alarms, and also hints to young people to assist in keeping the streets clean, etc.

The example of the Hamilton Civic Improvement Society in issuing the by-laws in this form for the information of the citizens is one which might well be followed by existing Civic Improvement Leagues.

It would be interesting to have further particulars of the above Societies and of any others which have been formed in past years for the purpose of promoting civic improvement.

FUEL FROM HOUSE REFUSE

THE disposal of house refuse, by the most speedy means and at reasonable cost, is an ever present problem in connection with city administration. Methods have to be varied to suit differences in climate and differences in the nature of the heterogeneous collection of material of which the refuse is comprised. Even without attaining the theoretical ideal of daily removal, the cost of the public service of collection and disposal of refuse is enormous, and adds considerably to the burden of the tax revenues of every city.

The question is often asked, Could not some scheme be devised to commercially utilize the material collected, so that part of the cost of collection might be met, and a great waste be avoided? There are two principal methods of disposal now in vogue: First, the unsanitary method of dumping the refuse in heaps; and, second, the sanitary and better, but costly, method of the destructor.

In England the cost of collecting refuse and destroying it has been the subject of much comment during recent years. By some it is claimed as a great waste in not utilizing the heating value of the refuse. This matter has been the subject of considerable study on the part of well known municipal and sanitary engineers in the Old Country. Among these is Mr. Reginald Brown, M. Inst. C.E., Engineer to the Southall-Norwood council.

Mr. Brown points out that the difficulty of obtaining the full heating value of house refuse was due to the following, among other, causes:

1. The difficulty of getting rid of it quickly, to prevent its accumulation becoming a nuisance
2. Its large bulk in comparison with its weight, the excess of air required for combustion, and the large percentage of moisture
3. Presence of tin cans, which must be sorted out.

He claims that most attention needs to be drawn to the calorific value of the refuse. If we were to succeed in conserving and utilizing it for steam-raising and heating purposes—and if this could be done in accord with sanitary principles—it would solve the problem.

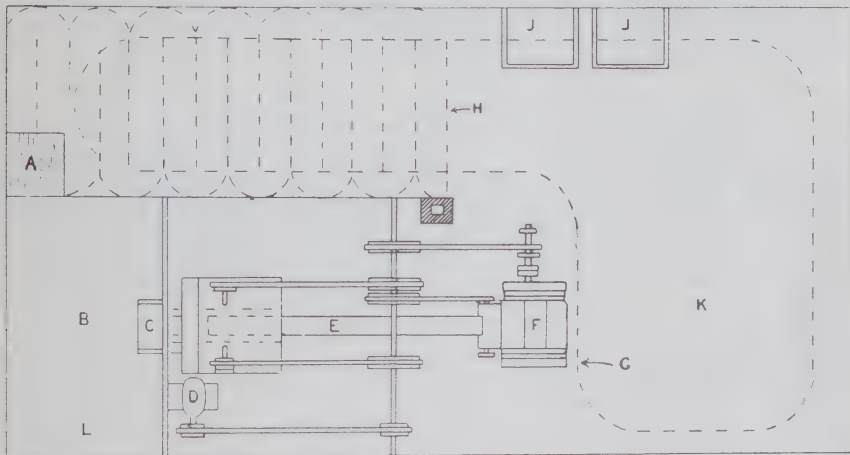
TREATING AND BRIQUETTING OF REFUSE

Mr. Brown has devised a process by which he claims that economical utilization of the refuse can be attained without sanitary inefficiency.

In the *Sanitary Record* of October, 1916, he described the process as follows:—

"Briefly speaking, the process is one of crushing, pressing, and impregnating. The crushing reduces the refuse to a powder, the presses convert the powder into briquettes, and the impregnating not only binds the material so as to facilitate handling, but also increases the calorific value of the fuel, and, what is more important, destroys all organic matter. There is, therefore, no fear of any nuisance arising from the process, no matter where it is carried on. The refuse is dealt with as soon as it is received at the works, and converted from a condition, in which a very short storage would lead to offensiveness, into a condition in which it can be stored for any length of time, and used as a fuel *as* and *when* and *where* required. Local authorities have here a method both of economical disposal and sanitary efficiency—economical, because the refuse can be dealt with at a cost below the worth of the finished article—and sanitary, because the method is "nuisance free." The design and lay-out of the necessary plant will, of course, depend upon local conditions and the nature and quantity of the refuse."

One form of installation is illustrated on the accompanying diagram.



DIAGRAMMATIC PLAN OF FUEL-MAKING INSTALLATION

Proposed by Reginald Brown, M. Inst. C.E.

(Actual plant designed according to output and site)

NOTE: A Small furnace for burning rags, etc., if necessary and to heat dipping mixture in tank above; flues from this furnace may be taken as H (below floor) to facilitate the drying of briquettes. B—Entrance for carts. C—Crusher. D—Motor, or L—Gas or steam engine. E—Elevator from Crusher to press. F—Press. J J—Dipping tanks. K—Store for finished briquettes. G—Overhead girder with travelling pulley for taking trays from press to drying store over H, and for dipping trays in tanks J and carrying to store K.

The plan here illustrated is intended for dealing with the refuse of an English town. In Canada we have entirely different conditions, in regard to climate, distribution of buildings, and character of material comprised in the refuse. We have also to recognize that the high cost of labour makes it less easy in Canada to make economical use of bulky material requiring a large amount of labour to convert it into a commercial product. On the other hand, the cost of fuel in Canada is so much higher than in

England that, given an economical method of conversion and a good heating material, it might be more profitable to apply the process in Canada than in the Old Country.

Mr. Brown suggests that the 'cheap heat' obtainable by his process would enable local authorities to convert sewage sludge into fertilizer.

CHEAP HEAT OBTAINABLE FROM SEWAGE REFUSE

"The solution of the problem of 'cheap heat' has also another important bearing on the ramifications of local government, viz., on the disposal of sludge at sewage works. It is a well-known fact that if it were possible to convert sewage sludge into a convenient form for utilisation as manure, there would be a good opening for development in this direction. Investigators into the question have all been regretting the want of a source of cheap heat, and yet such a source has been at hand all the time—only waiting to be tapped. There seems to be no reason whatever why the heating value of refuse should not be conserved, if only for this purpose. Refuse disposal works, as a rule, are in the vicinity of the population. Sewage works, on the other hand, are, as a rule, at some remote distance. Without some such process as here outlined the local authority is not only wasting good material, which can and ought to be conserved and converted into fuel, but is also losing a source of income which might arise from the conversion of sewage sludge into a fertilizer."

The whole question of sewage and refuse disposal needs full investigation. Whatever practical results may come of Mr. Brown's studies, he deserves the thanks of all sanitarians and civic rulers for having investigated the problem and made constructive proposals for dealing with it. The matter should not be left to be dealt with by private research and at private cost; it needs to be investigated in the public interest and should be the subject of public inquiry.

HOUSING SCHEME AT POINTE-AUX-TREMBLES

Homes for human beings. Cosy, comfortable, bright homes, where father and mother and the whole troop of children can live in safety and gladness, feeling what a happy thing it is to be alive in the world—and most of all to belong to each other—in great things and in small.—

HENRIK IBSEN, "The Master Builder."

AN interesting housing scheme is being carried out at Pointe aux Trembles, near Montreal, under the Quebec Housing Act. The Act, which is similar to the one in operation in Ontario, enables local authorities to guarantee the bonds, with a restricted dividend, of a private housing company. La Société des Logements Ouvriers was recently formed, with Mr. R. Prieur as president, for the purpose of operating under the Act. A portion of the capital has been raised locally, and the remainder is being raised on bonds guaranteed by the local councils.

A substantial beginning has been made, and a considerable number of houses erected. At first the type of house was less pleasing in appearance, and could not be commended from an architectural standpoint. Some of these earlier types are shown on the accompanying view of Fourth avenue, as well as the later types, which are being built of red



FOURTH AVE., POINTE-AUX-TREMBLES, NEAR MONTREAL
Houses on the left were first erected, while those on the right were more recently completed.



FOURTH AVE., POINTE-AUX-TREMBLES
Note the encouragement to tenants to keep the gardens in good order by having them handed over in the condition shown in the picture when the houses are first occupied.



POINTE-AUX-TREMBLES

View of houses and street before completion

brick. We hope to show a plan of the scheme, and give further details regarding the operation of the company, in the next issue of CONSERVATION OF LIFE.

Meanwhile, we would draw attention to the sound principles upon which this scheme is being operated. The houses are being erected in comparatively open country, where land is not too high in value, although it is accessible to the street railway service that connects with Montreal.

The scheme embraces the development of a great part of the district, and a considerable area has been reserved for the erection of factories and warehouses. The latter will not be indiscriminately mixed up with the dwellings. The houses are built of durable material, and well finished in every detail. Concrete pavements and sidewalks are constructed, and the gardens are laid out and planted before houses are occupied. One cannot conceive of any person being attracted by opportunities to purchase lots and erect their own isolated dwellings, even with all the advantages of ownership, when they have the chance to rent a home from a society of this kind.

The scheme will afford a valuable object lesson to the rest of Quebec, and indeed to the whole of Canada. These are difficult and expensive times in which to build, and if the society can operate successfully under present conditions, it will be bound to succeed when times are normal. We want more people in Canada, but we must first make available for them better places in which to live.

TUBERCULOSIS: A DISEASE OF INSANITARY LIVING

By

P. H. BRYCE, M.A., M.D.

PEOPLE who live in temperate climates necessarily inhabit houses requiring to be closed in inclement weather, and have had to establish a harmony with an air environment which may truly be called an artificial climate. It is in relation to this house climate that the people of civilized communities have especially to study how they may best establish a complete harmony.

CONSTITUENTS OF AIR

Normal air everywhere contains the same constituents, which are nitrogen and oxygen in the proportions of nearly four of the former to one of the latter, with incidentally a minute amount of carbonic acid of three parts in ten thousand of air. Such is found everywhere, over great expanses of water, of forest and of mountain where there are few residents, to contain almost nothing else than gases; but where population increases and human industries are carried on, many particles of dust from cultivated fields, streets and yards, stables and factories, and the bodies of men and animals are to be found, these reaching, on a windy day, as many as a million particles in a cubic foot of air, while living particles or microbes in the air of a hospital may reach 40,000 per cubic metre. In addition to such dust particles are the seeds of many plants and the spores of moulds and fungi, some of which live upon dead organic matter, while others live and multiply in the air passages and tissues of men and may become the exciting causes of disease.

When it is remembered that air at five miles an hour causes a change of the atmosphere around a person standing still of some 25,000 times, while with warm air moving at the rate of more than six feet a second a draft is felt, it must be plain that, as persons breathe seventeen times a minute, and even while sitting exhale at least 30 cubic inches of air, they not only will inhale a cubic foot of air every three minutes, but will also exhale the same amount, giving off not only carbonic acid to the extent of 25 per cent of the air exhaled, but also any dried particles from the mucous surfaces of the respiratory passages. In addition to this, particles of epidermis and whatever clings to it are constantly given off from the hands and exposed parts of the body, and these often contain living particles, either vegetating on the skin or picked up from the objects which are everywhere handled. It is under such conditions of life, especially in the houses of our cities and crowded work-rooms and stores, that such particles, being the direct cause of some disease such as smallpox, scarlet fever or tuberculosis, may become, by contact, as they pass into the air and by touch, immediately dangerous to individuals of all ages.

CONTAMINATION OF AIR

In addition to this direct source of disease, we have special cases where the dangers are greatly multiplied, as where individuals known to be suffering from open cases of tuberculosis contaminate the air enormously, both by particles of moisture from the throat while speaking and

coughing, and by expectorations which contain millions of the bacteria or direct agents of the disease.

Other special sources, such as the milk supply from tuberculous cattle, do increase the danger of infection from this disease, especially in children; but if the problem of living in houses in harmony with the environment is to be adequately solved, it must be especially realized that it is the particles discharged into house atmospheres and on to walls and floors of rooms which must be dealt with if tuberculosis is to be eliminated from any population.

The problems of dealing with and of preventing tuberculosis will, therefore, it is apparent, mean the removal, so far as in practice is possible, of the dangers directly attaching to the tuberculous person, such as a consumptive who expectorates enormous numbers of the germs of the disease, and thereafter of cleansing the air, the person's clothing, the furniture, the floors, and walls of rooms which he has occupied, and of providing in all such places the largest amount of fresh air that is possible. Education of the individual stands in the first place in the measures for the prevention of tuberculosis, and all persons, whether physicians or members of families where the sick are, should teach and be taught the principles of personal hygiene. In practice, it is found that nowhere do individuals suffering from the disease receive such education so well as in sanatoria, where expert physicians and nurses establish a routine of daily hygiene, which those who have spent a few months under it will practise after they have returned to their homes or gone elsewhere.

EDUCATION NEEDED AS TO MEANING OF FRESH AIR

But even greater good will result from the education of the community at large as to the real meaning of fresh air in living houses and living apartments. The weekly sweeping and still more the half-yearly house-cleaning illustrate, as when a carpet is beaten, the infinite number of particles which, unseen, are constantly accumulating in houses. It is further only necessary to leave a room closed in which a carpet is present to appreciate strong odours and the effects of moisture in the decomposition of the organic materials present in it, through the action of microbes which cause decomposition. We thus realize how one of the first steps we must take to keep a house clean is to allow nothing to be on the floors, which will retain particles of organic matter and the microbes which settle upon it, which cannot be readily and frequently removed and cleaned in the fresh air. Thus polished hardwood floors with rugs fulfil best both sanitary and æsthetic household conditions; while in many instances, as in hospitals and places of public resort, nothing serves the purpose so well as well-made modern linoleum, which can be cleaned with a moist cloth, or, still better, frequently rubbed with a weighted felt block, which has been treated with paraffine dissolved in turpentine or with some other wax preparation. What has been said with regard to carpets on floors is similarly true with regard to heavy wool hangings, such as curtains.

STANDARDS OF AIR SPACE IN ROOMS

Inasmuch, however, as we have persons always present in rooms, whose boots and clothing, as well as their persons, carry particles of all

kinds of matter, and similarly exhale others by mouth and nose, we must provide some systematic means whereby these persons may not only be prevented from polluting the air unduly, but may also be prevented from suffering from the lack of fresh air. Of course, it is apparent that there must be some limit to the number of persons living in any given space, and a standard has been adopted, under Public School Acts, in most progressive countries, whereby each child must be provided with 2,000 cubic feet of fresh air per hour. In an ordinary schoolroom, the space per child is commonly measured by the floor area of 4 x 5 feet in a room 12 feet high, thereby allowing each about 250 cubic feet. It is apparent that this air will require eight changes per hour to supply the required amount. Heating appliances are now available, whereby fresh air is warmed over steam pipes in the basement of schools and other buildings, and delivered by fans through ducts, which will supply the requisite amount by what is known as mechanical ventilation. The ordinary household, however, is not, on the one hand, subjected usually to the limited amount of air space just indicated; but, on the other, it is not commonly supplied with facilities for changing the air, such as that just described. Some have asserted that enough fresh air comes in around windows and under doors, etc., in northern cold climates to provide the requisite amount of fresh air. This, as a matter of fact, is not true; but

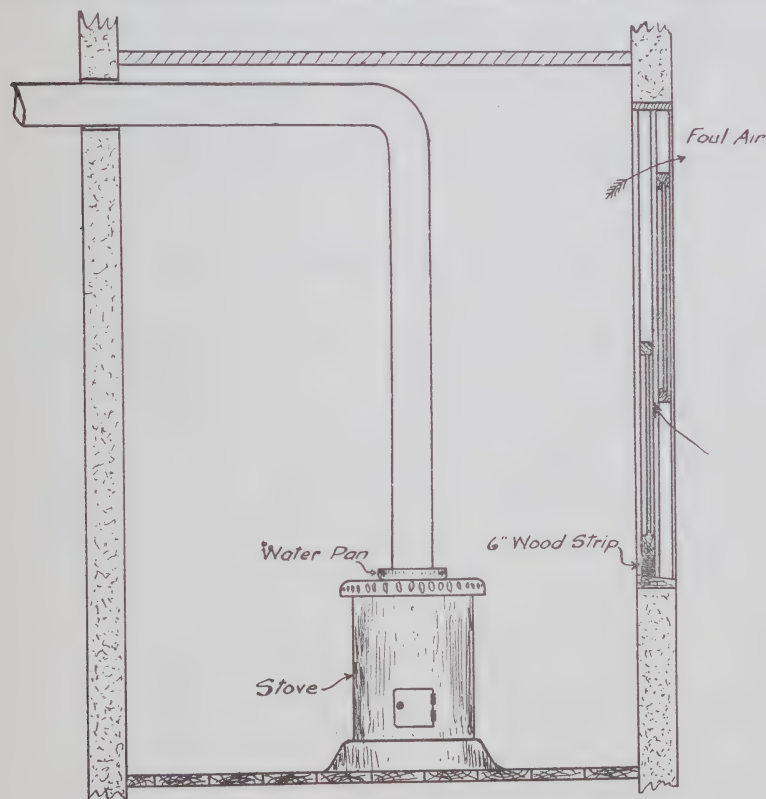


DIAGRAM NO. 1—Window Ventilation

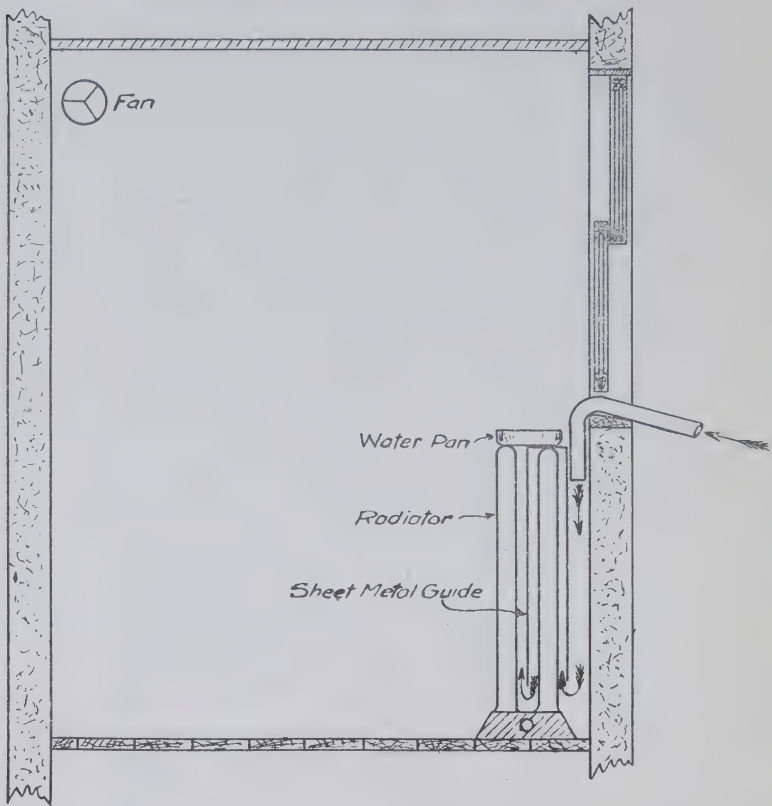


DIAGRAM No. 2—Radiator and Fan Ventilation

even when such air inlets exist, they have the constant defect that it means an uneven distribution of warm air and a sense of draughts about the feet and legs, due to cold air near the floor. Hence, some means should be adopted for insuring the entrance of warmed fresh air to our living rooms. Of course, in houses ordinarily heated with furnaces, it is often possible to minimize the evils due to the lack of ventilation by having the windows of bed-rooms open at night, when the body is protected by sufficient covering; but there is the need for some scheme by which house air can be kept practically at a temperature of 65° to 68° F. and yet be sufficiently changed to maintain its freshness and even distribution.

PROPOSED SCHEMES FOR SUPPLYING FRESH, WARM AIR IN ROOMS

Many more or less effective schemes have been attempted, but the following, applicable under different circumstances, are recommended:

In diagram No. 1, it will be seen that a simple stove heater, which may be a base-burner or of any similar type, is utilized, while the room is ventilated by placing a screen made of a well-stretched piece of cotton on a frame above the upper window sash,

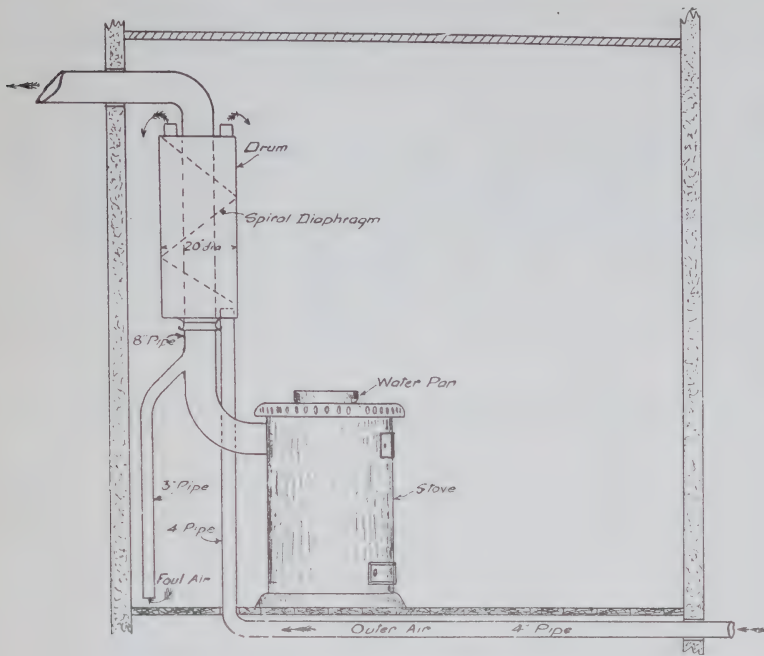


DIAGRAM NO. 3—Drum Ventilator, with Foul Air Outlet

which has been drawn down, and so supplying a steady interchange of outer and inner air through a substance which transfers much less heat from the room than a glass surface does. The space below the two sashes provides the inlet for fresh air. This, of course, will operate with double windows having movable panes fitted for the purpose.

Another means of introducing fresh air, which has been adopted with advantage, is that seen in diagram (2) where steam or hot water heating is utilized. Provision is made in this method whereby an inlet duct of tin the width of the window delivers fresh air behind a radiator placed in front of the window. The air is so distributed through the coil by a metal diaphragm between the two rows of coils that it passes into the room, warmed up to the point required and in proportion to the size of the radiator. The system is completed by a small exit pipe leading to the adjoining hall with an electric fan removing the foul air to the extent desired. Several similar openings may supply the requisite outlets for the warm room air even without the use of a fan.

Diagram No. 3 probably represents the most effective and satisfactory scheme for changing the air in the rooms of ordinary houses where a room heater is used. The diagram almost explains itself. An inlet duct for fresh air delivers it into a drum surrounding the stove pipe within which drum the air by a spiral diaphragm is warmed and passes into the room at the top of the drum. An outlet for foul air, which serves extremely well also for drawing the warm air toward the floor, conducts the room air into the draught of the stove-pipe and so maintains a pleasant even room temperature with a constant change of air.

Diagram No 4 serves very well large rooms, such as country school rooms and lumber camps, etc., where a large wood stove is used for heating.

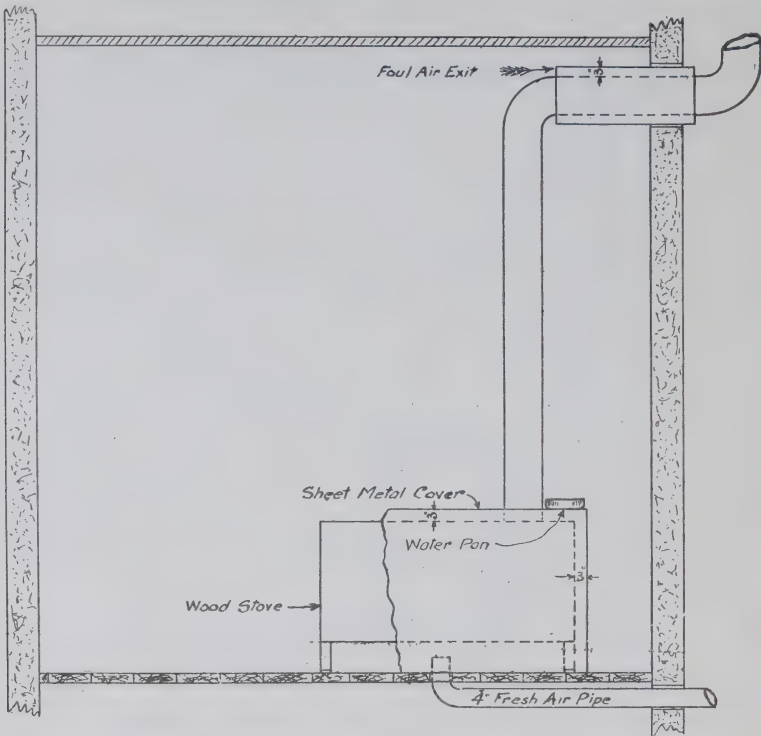


DIAGRAM NO. 4—Rural School and Camp Ventilation

Fresh air is brought in beneath the stove, which has a sheet-iron outer cover which enables the air to be warmed well around the stove before being delivered into the room. The foul air is extracted by an outer pipe around the upper portion of the stove pipe. The distribution of the warmed air in such a large room is thoroughly effected by connecting ducts leading from near the floor in each of the four corners of the room up to the exit duct around the stove-pipe. These pipes serve the double purpose of extracting the cold air from the corners of the room and so having warm air pass toward the outlets, while at the same time drawing the air off next the floor, thereby maintaining the lower air at a proper temperature.

MAINTAINING HUMIDITY OF INDOOR AIR

In each of the cases illustrated, nothing has been said about the necessity for maintaining the humidity of indoor air at a normal. When it is remembered, however, that air at zero can only hold at saturation point 0.48 of a grain of water in a cubic foot and when it is realized that this outer air warmed up to 70°F. would hold approximately seven grains of water, the result of warming outer air without supplying it with some means of moisture is evident. In practice it is found that such indoor air in an ordinary dwelling does not have more than 25 per cent of relative humidity, with the consequence that it abstracts moisture from furniture, walls and the bodies of inmates, creating in such a sense of cold due to the insensible loss of body moisture through evaporation and so requiring a temperature of 70° to 75° F. in order to maintain comfort. To obviate such serious defects in house air, it is possible,

wherever hot air, hot water or steam is used in a house, to supply a constant amount of steam from a metal heater placed over the fire of the furnace, water being supplied to the evaporator at the same time automatically from the city water supply.

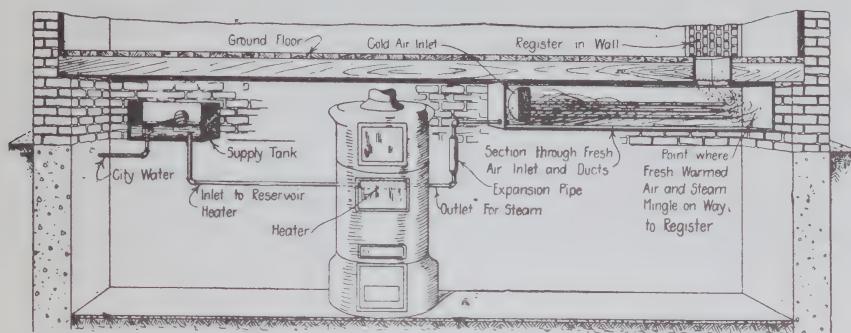


DIAGRAM 5

The apparatus consists of (a) a hollow casting or a series of pipes coupled together and placed over the fire beneath the sections of the boiler with the inlet pipe attached to the public water supply through an ordinary closet tank, set in the cellar at such a level as to just keep the heating reservoir filled. (b) The exit pipe leads directly to the flower room or other convenient place in the house, where it delivers steam directly and through the *law of expansion of gases* diffuses itself throughout the house, so that everywhere the degree of humidity is in practice the same. The automatic character of the water supply regulates nicely the moisture in the house, because, if the weather outdoors is cold and dry, the amount of heat required is greater, the fire burns brighter and the evaporation is more; while, if the outer atmosphere be mild and consequently holds more moisture, the fire will be burning less brightly and the amount of water evaporated will be proportionately lessened. It is desirable in order to make such a system effective that means be provided for introducing fresh air constantly into the house along with the moisture to maintain the sensation of freshness associated with moving air. It is found possible to warm outer air by passing it through a chamber in tubes which are surrounded by the steam as it moves toward the flower room, since as the air is warmed its capacity for moisture increases, and when the two are mingled they pass into the house atmosphere without any precipitation of moisture whatever.

The proper application of this system will maintain house air at a pleasant humidity of 50 to 55 per cent, while by a method shown in the diagram, the steam may be utilized to warm fresh air as it is introduced into the hall or living room of the house. The law of diffusion of gases operates so completely that hygroscopic tests will show air in all parts of the house to maintain practically the same relative humidity.

Realizing the defects and cost of methods adopted in schools and other places of assembly in supplying enough fresh air with an even distribution, recent experiments have been made tending to prove that the amount of carbonic acid in the air of a room given off from the lungs of persons is not in itself deleterious; but that the essential thing is to have the air which surrounds the individual, whose body temperature is 98.4° F., constantly replaced; or, in other words, that practically all the requirements of ventilation are met so long as the air of a room is kept in motion. While it is true that movement of the air in rooms is most desirable and necessary, the facts as herein set forth seem to supply ample evidence of the necessity of bringing to persons who have to live much indoors a steady supply of warmed fresh air, if they are to maintain themselves in good health and minimize the dangers from those who suffer from tuberculosis to those living with them.

RECONSTRUCTION AND REDEVELOPMENT AT HALIFAX

Extract from Preliminary Report of Mr. Thomas Adams to the Commission of Conservation

THE great calamity that has befallen Halifax has brought about new conditions and entirely changed the whole aspect of the problems to be dealt with. As a result of the calamity a serious effort should be made to prepare a sound scheme of development worthy of the city. There is now a great opportunity to improve the industrial facilities and housing conditions of Halifax. We may thereby get considerable benefit to the city and to Canada to off-set the material losses sustained in the disaster.

A hurried inspection of the devastated area showed the importance and urgency of the problems to be dealt with. Immediate expropriation has been suggested, but this is not desirable until after full investigation and until the principles on which provision may be made for indemnifying those who have lost their property are settled.

PROBLEMS CREATED BY THE DISASTER

From investigations made, it appears that about 794 residences and other private buildings have been completely destroyed; 337 partially destroyed and 394 injured to an extent from 15 per cent to 30 per cent of their former value. In addition about 5,000 buildings in the city have been injured in part. About 1,500 buildings will have to be rebuilt in the whole city to accommodate the homeless population, numbering about 9,000 persons. The difficulty and expense of providing this re-housing arises from the fact that the greater number must be accommodated twice over. Temporary buildings must be erected immediately to shelter them during the coming year and until permanent buildings are erected.

Of the 9,000 who are said to be homeless, 1,000 are in hospitals, while about 8,000 others are in temporary lodging in public buildings, are guests in private houses, or have left the city.

In any question of re-housing these people, consideration should be given to their weakened vitality, as the result of the shock and injuries they may have received.

EXTENT OF FINANCIAL LOSS

The extent of the financial loss cannot be computed, but some general estimate may be made of the cost of reinstating the homeless population. Many of the buildings destroyed were flimsy in construction, and, if proper steps were taken to erect more permanent homes, the city might reap some economic advantage from the disaster. To provide temporary housing for 9,000 people, even with the assistance of the Militia Department, and to rebuild their homes or erect others in lieu of those destroyed, and to repair the injuries to other buildings, may mean an expenditure of \$6,000,000. This will be apart from the heavy expense to be incurred by the Federal Government and the city of Halifax in re-instating public buildings, railway rolling stock, etc., and

also apart from the large expense which will be involved in providing for the maintenance of the permanently injured and the re-adjustment of business which has been temporarily dislocated.

FIRST STEPS TO BE TAKEN

There are three steps which should be taken at once, apart from the erecting of temporary houses and the repairing of buildings. The first is to prescribe an area to the north of North street, in which no new buildings may be erected for a definite period, to enable proper plans to be prepared and also to permit of the work of clearing up the debris to be carried out. Exceptions to this may, however, be permitted in the case of the temporary houses to be erected by the reconstruction committee and, of course, in respect to any public works that are necessary in connection with naval and railway works.

The second duty will be to apply as much labour as possible to the clearing up of the debris on the devastated area, so that on the arrival of spring, everything will be in readiness to commence the new development.

The third duty is to establish a small commission representative of the Federal, Provincial and City Governments, to prepare a plan of development and control the expenditure of relief funds, other than the ordinary revenues of the city, during the two or three years which will be necessary for reconstruction and for settlement of the problems created by the disaster.

The following matters of importance need attention in any scheme of re-development:—

1. The improvement of the railway facilities, so as to particularly serve the industrial development of Halifax and neighbourhood;

2. The increase of suitable industrial sites, available for erection of factories and warehouses, in proximity to the harbour and railways, so far as this can be obtained in the northern part of the city, with due regard to the undulations of the land and the requirements of the naval and railway authorities;

3. The improvement of the road approaches to the city from the north, and the lessening of the grades of the principal streets in the northern part of the city;

4. The linking up of the existing streets, sewers and water mains with any new scheme of development, so as to secure the minimum loss to the city.

TEMPORARY HOUSING

I have recommended the reconstruction committee to erect the terrace cottage type of temporary dwelling with separate sanitary appliances for each family. The sizes of the dwellings should be reduced to the minimum, rather than sacrifice sanitary convenience. I am persuaded that small dwellings, with the privacy and cleanliness which can be obtained in the terrace cottage type, will not involve greater cost per family than in the proposed tenement system, with public lavatories and wash-houses. I have submitted plans for suggested types to the committee, with a report on the subject of temporary housing.

CIVIC IMPROVEMENT IN CANADA

At the request of the local authorities special attention is being given by the Town Planning and Housing Branch of the Commission of Conservation to the question of planning the re-development of Halifax.

The Quebec Government proposes to introduce a Bill in the present session to form a Bureau of Municipal Affairs for the Province.

A Town-Planning and Rural Development Act has been passed in Saskatchewan. The Act contains a number of new features, which are improvements on previous town-planning legislation. There are now six provinces in Canada with Town Planning and Development Acts.

A Toronto Committee is taking steps to organize a Canadian Housing Conference in Toronto in the spring of 1918. The question of housing in Canada is in urgent need of attention, especially in connection with the new industrial developments that have occurred as a result of the war.

Civic Improvement Leagues have recently been formed in a number of cities and villages in Manitoba and British Columbia. Secretaries of new leagues are requested to send the names and addresses of their members to the Commission of Conservation so that they may be put on the mailing list for civic improvement literature.

***H**ERE then is the opportunity and the task before us. The democratic nations, and ours amongst them, will emerge from the present conflict with a new faith in the possibilities of free government if inspired by the spirit of freedom. Our men who return from the war will come to us with eyes that have seen things as they are, that have looked steadfastly in the face of death, that have seen and known real greatness and cannot be deceived by the tawdry glory of wealth. We must see to it that we make for them a future Canada, worthy of their patriotism, and worthy of the monuments that shall mark in distant lands the resting places of those whose sacrifice is complete and who shall come to us no more.—STEPHEN LEACOCK.*

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CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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GOVERNMENT HOUSING DURING WAR

.....*"The housing problem is undoubtedly one that will have to be taken up seriously during the next twelve months. Whether it should be done by the Federal Government or by the Provincial Government is a matter for discussion, but certainly it will have to be tackled by one or the other, if private builders will not undertake the task of providing houses for the working classes."*—MONTREAL DAILY STAR—March 9, 1918.

THE working-class housing conditions in the industrial sections of Canadian cities were far from satisfactory before the war, but in the last three years they have been growing steadily worse. Private enterprise, for obvious reasons, has ceased to operate in building houses to any large extent. The want of an adequate supply of new houses drives a growing population more and more into the available dwellings, which are unsuitable for habitation, causes overcrowding, and greatly increases the contribution which the worker has to pay for shelter.

If the population of the country were to continue to spread evenly, and if the migration from the country to the city were to cease, the failure of private enterprise might not be a serious matter, for some time at least. But as we create new industries, and cause the expansion of some old industries for war purposes in certain restricted areas, and attract large quantities of labour to these areas, we develop a serious condition of drift of population which creates serious housing problems. We may have as many houses as before, but not in the right places where the drift has gone.

Government factories have been erected in Canada and no provision made to house the workers, and large war orders have resulted in private corporations greatly increasing the population of certain districts but making no attempt to shelter that population in decent homes. Bad sanitary conditions and overcrowding have grown up as a result.

The British Government, through the Imperial Munitions Board, has erected and financed munition plants to an extent of over \$14,000,000 in Canada, employing 6,200 workers. This is in addition to the munition work being done by the Canadian Government and by private corporations. The Prime Minister is reported as saying that the above Board has also spent \$64,500,000 in shipbuilding and that the Canadian Government has appropriated \$25,000,000 for the same purpose. In centres such as Halifax overcrowding and overrenting has been caused by other forms of war activity carried on by government agencies.

No housing policy has been determined in connection with any of the above enterprises. While the Imperial Munitions Board is repre-

sentative of the British Ministry of Munitions, it has apparently no power to do in Canada what the Ministry regard it as essential to do in Britain to secure efficiency in production. The housing and social welfare branches of the Ministry are huge organizations, and are looked upon as important parts of the machinery of war; but above all they are being used to lay the foundations for industrial reconstruction after the war. Are we in Canada going to suffer material loss as a result of neglect of this aspect of war industry, or are the British people wasting their money and time?



GREटना—Five-roomed workmen's cottages on curved road. Note simple pavement and absence of fencing. Uniformity of the main structures permits of economy, but variety is obtained by different treatment of doors and windows.

It is not easy to give up the deeply fixed idea that Federal and Provincial Governments have no responsibility for housing the people, including their own workers. The question is naturally asked whether it is not the business of a government to govern and not to engage in business? That is a very proper question to put to ourselves, but it is no longer asked in Britain and the United States. For one thing, the governments of all belligerent countries are engaged in business of many kinds, each so big and involving such great issues, that everything that can contribute to their successful development should be brought into play. The chief business is to simultaneously defend the country and build up its resources. In doing so factories must be built, financed and operated, shipbuilding and harbour developments must be carried out or given aid, and food must be grown in greater quantity. All these involve employment of labour in new areas, and that involves housing.

Have the Federal and Provincial governments a responsibility to workers engaged in these war industries? Should they either require adequate accommodation and proper sanitary conditions to be provided at a reasonable cost for those who are engaged in the service of their country, or assist in making that provision, as is being done in Great Britain and allied countries?

These are matters for the governments of Canada to consider. In Great Britain it has long been recognized that the government of a country has a distinct responsibility in regard to the housing conditions of the people, apart from those engaged in war industries. Before the war many millions of government money was invested in housing

schemes, promoted either by municipalities or by public utility societies. These schemes were carried out to meet needs no greater than those which have had to be met in Canada.

Whatever answer may be made to the above question regarding what should be the government housing policy in Canada it cannot be met by the answer that conditions are materially different from those in Great Britain. The war has produced a similarity of problems and conditions, although from experience in dealing with housing problems in the past the matter is approached from a different point of view in Britain than on this continent. In the United States and Canada the tendency has been to leave these matters to private enterprise,—with fairly satisfactory results outside of the crowded parts of big cities.

But the war, and Britain's example, have brought about a complete change of policy on the part of the United States Government.

WAR HOUSING IN THE UNITED STATES

No Government scheme has yet been carried out in the United States, but the policy has been decided and the money provided.

Under the Act which became law on the 1st of March, the United States Government has authorized the Shipping Board Emergency Fleet Corporation to acquire land and houses, to construct houses and sell or lease them, and to lend money for building houses, all these powers to be exercised in connection with the housing needs of shipyards. For the purpose of carrying out the provisions of the Act, the expenditure of \$50,000,000 is authorized.

A bill to authorize the expenditure of a further \$50,000,000 on housing in connection with munition plants and war industries has been favourably reported upon by the Committee on Labour of the House of Representatives.

The executive administration of Government housing in the United States will probably be in the hands of Mr. Otto M. Eidlitz, a New York builder, who has been acting as Housing Adviser to the three departments, Army, Navy and Shipping Board, assisted by expert town planners, architects and engineers. Housing schemes are already being started in connection with shipping plants in different parts of the country. The intention is to follow the example of Britain, as far as



GRETNA—Groups of cottages temporarily used as women's hostels.

practicable, in regard to the erection of permanent rather than temporary homes, in providing for the social welfare and recreation of the workers, and in planning and laying out the land on the best lines.

EXAMPLE OF GREAT BRITAIN

The work of Britain in this matter, considering its proximity to the battlefields of France and its reliance on naval protection for its food supplies and its very existence, has been truly remarkable. We have heard little of it in Canada, but it is widely known and appreciated in the United States.

Comparatively early in the war it was realized in Great Britain that the war had to be fought by the civil forces at home as well as by the men standing in the trenches, and that a necessary part of the equipment of the civil forces would be good housing accommodation. The necessities of war and of strengthening the national structure so as to enable it to withstand the consequences of war has created a new outlook on such social questions as housing and town planning.

Soon after Mr. David Lloyd-George became Minister of Munitions he appointed a committee to consider and advise on matters respecting



GRETTA—Two pairs of charming family cottages for the more highly paid workmen.

the health and physical efficiency of workers in munitions factories and workshops. That committee, with Sir George Newman, M.D., as chairman, enquired into the problems of industrial fatigue and the science of management based upon it, which, they state in their report, had become acute during the recent development of munitions industries of Great Britain. They express the hope that the study given to these matters would have lasting results of benefit to the industries of the country. In the concluding paragraph of a memorandum, dated January, 1916, and relating to "Industrial Fatigue and Its Causes," they say that the national experience of England in modern industry, which is longer than that of any other people, has shown "clearly enough that false ideas of economic gain, blind to physiological law, must lead, as they led during the nineteenth century, to vast national loss and suffering. *It is certain that unless our industrial life is to be guided in the future by the application of physiological science to the details of its management, it cannot hope to maintain its position hereafter among some of its foreign rivals, who already in that respect have gained a present advantage.*"

Partly as a result of the investigation made into the problems which had arisen, and partly as a result of past experience of bad housing conditions, the British Government found it necessary, in the middle of the



GRETNA—The Picture House. This building adds to the beauty of the street in which it is situated. The absence of ugly projecting signs does not detract from its popularity as a place of amusement.

war, to inaugurate a policy of national housing on a large scale. Since that policy was started, large housing schemes have been carried out in many parts of England, by the Ministry of Munitions, the Office of Works, the Admiralty, and the Local Government Board. There are housing departments in connection with all these branches of the Government. It would require a large volume to deal with all their activities, and there is only space within the limits of this article for referring briefly to one among the many projects that are being carried out.

THE NEW TOWN OF GRETNNA

Near the village of Gretna, in the south of Scotland, a site was chosen in 1915, for the erection of works to manufacture explosives, and



GRETNA—The Institute for men and women. Facilities for social intercourse, reading and recreation are part of the raw material of war industries. At the front, war means destruction of life and welfare, at home it should mean construction.



GRETNA—One of the club rooms in the Institute.

a number of farms were purchased for that purpose. Since then the factories have been built and two small towns created to accommodate the workers. These towns are being developed under the supervision of Mr. Raymond Unwin, formerly architect of the Letchworth Garden City, with the aid of Mr. Courtenay Crickmer as resident architect.

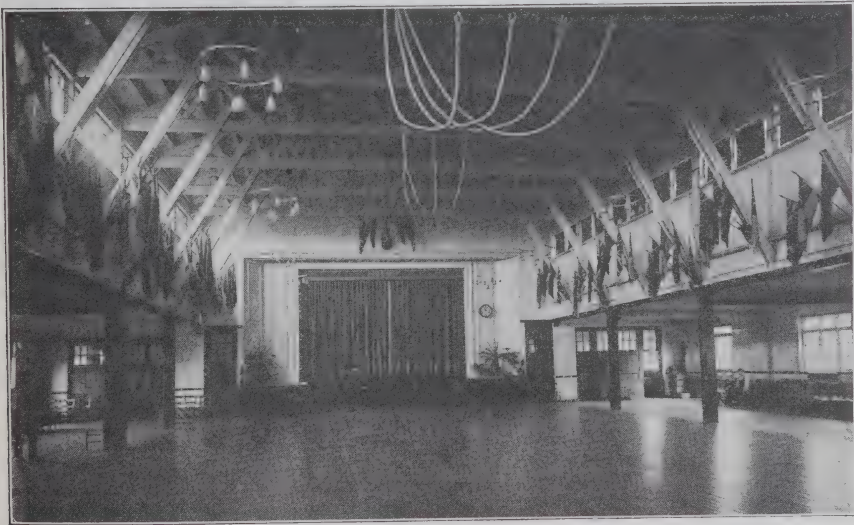
The factories are spread over an area 10 miles long and the two towns of Gretna and Eastriggs are situated at convenient points within easy reach. At first the Government erected a number of single storey wooden dwellings at Gretna, but this class of building was abandoned in favour of permanent brick buildings. One reason for this change was due to the costliness of timber, which meant that permanent brick buildings could be built at practically the same cost as wooden huts. Huts have to be provided with baths, ranges, drainage and plumbing fixtures of the same permanent type as brick buildings, so that the main difference between the two kinds of structure is in the walls and roof. Brick are as cheap as timber, and permanent buildings will have a larger salvage value after the war. A saving in erecting brick buildings, as compared with temporary huts, was mentioned to the writer by the resident architect, as consisting of the reduction in the cost of land development due to the shorter length of road, sewer, water main, etc., required for the permanent houses. He pointed out that huts took up about double the frontage of permanent cottages and required a space of 30 feet between them for safety from fire. Mr. Crickmer added that a wooden cottage with all the conveniences of a permanent cottage would take nearly as long to erect, that permanent buildings were an asset to the estate, while the temporary buildings, costing almost as much, would be of little value in a few years' time; and that the risk of fire was greatly reduced and the buildings were much cleaner.

From the accompanying illustrations of three groups of houses it will be seen that the houses are simple yet beautifully proportioned in design, durable in construction and with pleasant open surroundings. More cottages have been built than are required for the married employees and these are being temporarily used as hostels for women workers; each hostel consisting of a group of four and six cottages. Very little expense will be necessary to convert the hostels into separate dwellings when they are required. There are about 15,000 people, of whom about two thirds are women, housed in the two towns of Gretna and Eastriggs.

Altogether quarters have been provided for 550 families in cottages; 85 hostels provide accommodation for 6,200 munition workers, and 134 bungalows have accommodation for about 1,300. In the central kitchen some 17,000 meals are cooked daily, and from the stores attached to the kitchen, provisions are distributed to the various hostels. In the two years since the town of Gretna was started, shopping facilities have grown up and civic services have been provided as adequately as in an old established town. There is a large institute for the employees, with a social secretary, a staff club, three permanent churches, and up-to-date fire brigade, full medical services and fully equipped modern schools.

One of the remarkable features of these new towns in Britain is the extent to which provision is being made by the Government for amusement and recreation. Instead of this kind of thing being regarded as a luxury and, therefore, unsuitable to receive attention during the war, it is looked upon as one of the most necessary parts of the organization. Seating accommodation for 1,100 people is provided in two moving picture houses. There are recreation facilities in the club rooms of the two institutes already referred to, and two large halls capable of seating 1,100 and 650, respectively, are used for entertainments, concerts, dances, etc.

As an example of the rapidity with which some of these buildings



GREटना—Interior of dance hall and gymnasium, which seats 1,100 people. This building was erected in about six weeks.

have been constructed, the largest recreation hall, the interior of which is illustrated, was erected in about six weeks. All the above buildings are controlled by the Minister of Munitions.

No spiritous liquor is sold within the factory area, but within the townships light beer is sold for consumption on the premises in three canteens controlled by a committee nominated by the Department. The policy seems to be to make drinking, even of light beer, as unattractive as possible and to make ample provision of counter attractions. The provision of buildings for recreation and social purposes is not, however, regarded as fulfilling the complete responsibility of the Government. They have also provided welfare secretaries and organizations to



GRETNA—Staff Club House. This beautiful building was designed by Mr. Courtenay Crickmer, Resident Architect.

enable full advantage to be taken of the buildings. The British Treasury provides an annual grant for social and athletic purposes. The reason for this grant being given was owing to the fact that operatives were discontented during the early development of the town for want of suitable amusements in their leisure hours. The chief source of revenue for social purposes is, however, obtained from the profits of the moving picture houses and concerts, entertainments, etc. There are numerous clubs and societies affiliated with a Central Social and Athletic Association. Outdoor recreation is provided for in the summer and athletic meetings are held from time to time.

The British Government, in erecting these houses as a war measure, is unable to take into account the relation between their rental value and cost. Building materials and labour are so much dearer since the war that building costs have gone up from 50 to 100 per cent. The earnings of the working people have also increased but not sufficiently to enable rents to be charged which will pay an adequate return on the capital

employed in building. It is largely because of this situation that building by private enterprise has practically ceased.

Therefore the Government has had to step in and provide houses in order to get efficient labour, and in building houses it has had to recognize that the social as well as the individual needs of the people have to be met. Hence the policy of developing new model communities which will help to win the war by making labour more efficient, and help to reconstruct Britain after the war as a result of broad vision and the exercise of prescience during the war.

Mr. Otto Eidlitz, housing adviser of the United States Government, said the question that Government had to decide in regard to whether or not it should embark on national housing was:—Whether or not it wanted to win the war. Since it is proved that overcrowding, congestion, and bad sanitary conditions restrict output, as well as endanger recovery to normal conditions when the war is over, the question put by Mr. Eidlitz has to be answered in every allied nation. The sacrifices made in the war will not be in vain if German depotism is crushed, but may it not be too much to hope that these sacrifices will also help us to crush the despotism of economic pressure, cramping environment and insane indifference to morals and health in our industrial communities at home.

—T.A.

RADIAL HAMLET SETTLEMENT SCHEMES

BY

E. DEVILLE, L.L.D.,

Surveyor General, Dominion Lands

A NUMBER of hamlet settlement schemes, in which triangular farms are formed by lines radiating from the hamlet, have recently been presented to the public through the newspapers. The object of a hamlet scheme is to enable farmers to enjoy the social and other advantages resulting from community life by gathering their houses and buildings into small hamlets.

The idea is not new: it can be traced back to the early days of the colony. The first settlements were along the shore of the St. Lawrence, around Quebec, each settler's lot being given a narrow frontage on the river, generally 2 or 4 arpents (23 to 46 rods), and a depth of several miles. The houses were built on the water-front and stretched in a long line along the shore. This state of affairs did not agree with the views of the King; his subjects in France were living in villages, which was the proper way for people to live, and his subjects in Canada must dutifully conform to the established custom of his kingdom. Accordingly, by an 'arret' of the 21st March, 1663, he ordered the population to be gathered into hamlets and boroughs. In his instructions to the Intendant, Jean Talon, he tells him to divide the inhabitants into boroughs, each composed of a reasonable number and with a suitable amount of land, and to cause them to observe the regulations and usages which are practised in France. Great was the consternation among the Canadians on receipt of the King's arret; they feared being compelled to abandon their houses and improvements. Talon told them that the measure was not intended to be retroactive. To further allay the excitement and demonstrate the feasibility of the scheme, he laid out, in 1667, a few miles northwest of Quebec, the three villages of Charlesbourg, Bourg Royal and

L'Auvergne; two were settled with 'families' and the third one with soldiers.

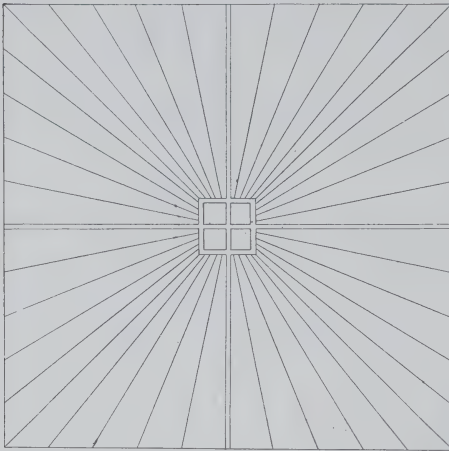


Fig. A.—Charlesbourg and Bourg Royal Settlements, near the city of Quebec

The village was in the form of a square of forty-arpent sides (about $1\frac{1}{2}$ miles). Each side was divided into ten parts of four arpents each (46.5 rods), which formed the bases of forty triangular farms of forty square arpents (34 acres). In the centre was a small square, with a road around it called the 'Trait-Quarre' (square line). Inside the trait-quarre was the church, cemetery, flour windmill and flour water-mill; the inhabitants' houses were on both sides of the trait-quarre. Charlesbourg, three and one-half miles from Quebec, is to-day a town of some 2,500 population.

This first attempt at rural planning in Canada did not prove popular. Only five villages were laid out, and the inhabitants continued, as before, to take their lands in long, narrow lots, fronting on rivers or roads. Incidentally, it may be mentioned that when one of these lots is divided among a farmer's heirs, it is divided preferably in the breadth, not in the length, because each heir wants his share of the frontage. Farm lots exist to-day which are only a few feet wide and several miles in length. There is ample scope here for re-planning.

The hamlet colonization idea was revived on various occasions, but never made any headway. A notable instance is Sir William Van Horne's scheme. He did not publish it, but never lost an opportunity of explaining it to his friends and extolling its merits. He was quite enthusiastic about it. He contended that, in the western prairie, 160 acres was insufficient to support a family, and his view must have been shared to some extent by the government, since home-

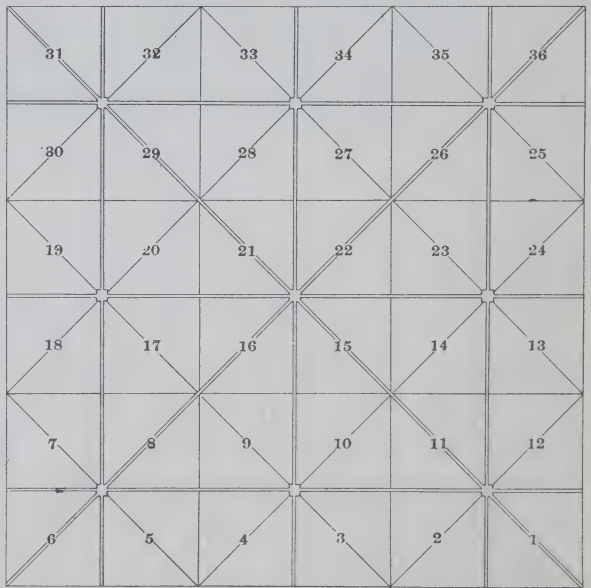


Fig. B.—Sir William Van Horne's scheme of township-subdivision, 320-acre homesteads

steads were allowed to acquire as pre-emptions the quarter sections adjoining their homesteads. His scheme, shown in Figure B, provides for 72 homesteads, of 320 acres each, in a township six miles square, each section or square mile being divided into two equal parts by a diagonal. The houses and buildings of the settlers were to be concentrated into eight hamlets of eight families each and a village in the centre. He added two diagonal roads and re-arranged the other roads, the total length being 53 miles per township against 54 under the present system of square subdivision. Although the length of the roads was less, the means of communication were much improved.

Dividing each of the 320-acre homesteads of the Van Horne scheme into two equal parts by a radial line from the hamlet, is the scheme now of E. H. Phillips, Acting Chief Surveyor of the Saskatchewan Land Titles Offices, published in May last. The result is 16 homesteads of 160 acres and 16 families for each hamlet.

The Van Horne scheme can be adapted to 160 acres homesteads without changing its features, but it is necessary to turn it around 45 degrees to make it fit a township six miles square. Each hamlet still accommodates eight families, but there are eighteen hamlets and 69.25 miles of road. The scheme is illustrated above.

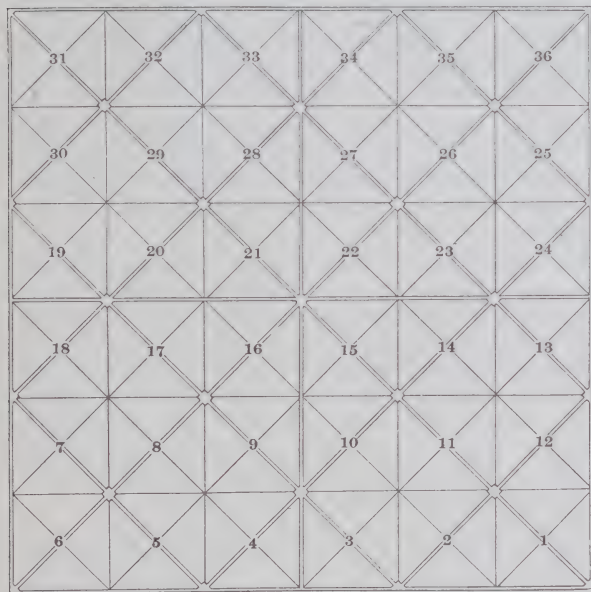


Fig. C.—Sir William Van Horne's scheme adapted to 160-acre homesteads

The disadvantages of all hamlet colonization schemes are:

1. The homesteads are elongated, with the bulk of the land at the far end. In Mr. Phillips' scheme, for instance, some of the lot lines are nearly a mile and half in length. If a farmer had to walk a mile and one-half to his work in the morning and as much to go home after the day's work, he would be somewhat handicapped. One who builds his house in the middle of the side of a quarter section is little more than one-half mile from the corners.

2. A consequence of the elongated shape of the homesteads is that more fencing is needed to enclose them.

3. In dividing a homestead into fields, triangular fields are inevitable; they are not so convenient as rectangular shapes for ploughing, harvesting, etc., especially when the angles are acute.

Considered purely as a problem in geometry, the solution of the hamlet colonization scheme is the hexagonal system, the system of

survey of the bee. It is in that system that the disadvantages enumerated above are reduced to a minimum, although they still exist.

The hexagon can be divided into any number of homesteads of equal area by lines radiating from the centre, like the spokes of a wheel, the hamlet being at the hub, but the greater the number of divisions, the more elongated the homesteads become, and a practical limit is soon reached.

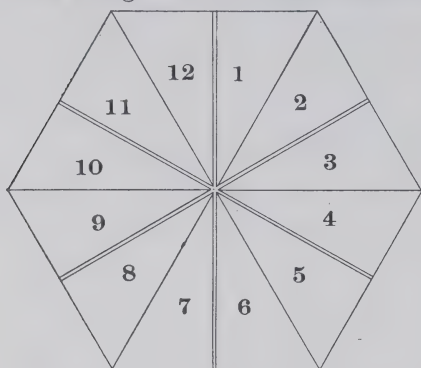


Fig. D.—Unit of the hexagonal system divided into twelve homesteads

Figure D represents a unit of the system divided into twelve homesteads, each corresponding to an hour of a clock dial. A road is laid out on every second lot line. For 160-acre homesteads, the length of the triangles is very little over a mile. If a mile is the limit of the length which it is practicable to give to a 160-acre farm of triangular shape, then twelve is the limit of the number of farmers that can be gathered together into one hamlet. The hexagons have to be squeezed slightly to make them fit a town-

ship six miles square, as shown by the figure, but the distortion is not enough to make any practical difference. However, there is no imperative reason why the size of the township should not be changed to fit the hexagons.

There are 67 miles of road in a township, against 54 in the present townships, but the means of communication are vastly improved; the distance by road between any two hamlets is at the most only 15 per cent longer than the straight line.

The Dominion Government has never departed much from the square plan; the parishes and settlements along the Red, Assiniboine and other rivers were laid out by the Hudson's Bay Company prior to the acquisition of Rupert's Land by Canada. The only attempt to introduce a modification was in the early eighties, when the lands on the South Saskatchewan, Red Deer and Battle rivers were being surveyed. It is obvious that a quarter section cut into two parts by a large river is not convenient for working as a farm; on the other hand, a river frontage is an advantage. The sections fronting on these rivers were accordingly divided into river lots a quarter of a mile wide and a mile deep.

Advanced thought does not favour planning by geometrical rule. It is held that the subdivisions of a tract of land must be adapted to its topography, that the roads must be located where they will be of most service, where grades are light and the soil suitable, and that every local feature must receive due consideration in devising the general scheme. There is only one instance of a subdivision of this kind in Canada; it is in one of the Canadian Pacific Railway irrigated townships in Southern Alberta. The company, having invested eighteen million dollars in the irrigation works, considered that they might as well spend a little more money to alter the subdivision in conformity with modern ideas, and have everything as perfect as possible. They selected a township badly cut up by irrigation ditches, where the need of a readjustment of the subdivisions was obvious; they made an elaborate planning of the land,

laying out each farm so as to best meet the requirements of the farmers. They next proceeded to fill it with selected farmers, some from Alberta and some from the United States. To the astonishment of the company, these farmers took, in preference, the lands in the adjoining townships divided into squares, and it was not until all these lands were taken that the scientifically laid out township was filled in.

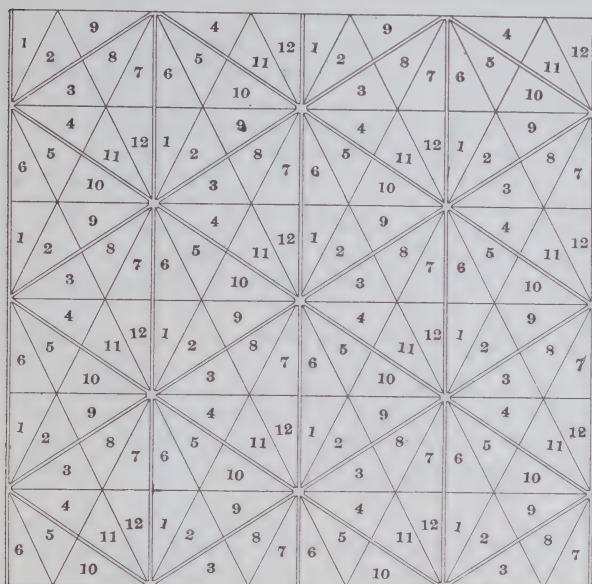


Fig. E.—A township subdivided in the hexagonal system,
160-acre homesteads

The Dominion Government had no more luck with its river lots. Such a storm of protest came from the west that they had to be unsurveyed, except those that had been disposed of, and turned into quarter sections. The protest was unreasonable because a quarter of a mile by a mile is a good shape for a farm, better than most of the farms in Ontario. It is also pertinent to remark that notwithstanding this enthusiasm, Sir William Van Horne never tried his scheme, although he

had twenty-five millions of acres at his disposal; he must have been satisfied that it would not prove successful. It is difficult to avoid the conclusion that the man behind the plough wants his farm to be square. He may be deluded, but, until he changes his mind, the prospects of a departure from the square farm are remote. A campaign of education is needed; the returned soldiers' settlements may afford an opportunity of starting it.

WHAT A TOWN PLANNING SCHEME INCLUDES

The preparation of a Town Planning scheme naturally divides into two parts, one of which has to do with the planning of land—more particularly the location of main arterial thoroughfares which may be regarded as the skeleton or framework upon which future expansions of the city may be built; while the other part relates to the regulations and laws which are to govern the laying out of streets and the development and occupancy by private owners of land for purposes of business and habitation.—W. F. BURDITT, St. John.

SETTLEMENT OF TRAINED BRITISH WOMEN WORKERS IN CANADA AFTER THE WAR

BY

EDITH E. LEACH*

AS the question of the emigration of men and women to the colonies after the war is now receiving the attention of the Dominion and British Governments, I venture to bring forward certain suggestions with regard to the emigration of women to Canada.

Having spent nearly four years in British Columbia (which I left a year ago) and having had unique opportunities of coming in close contact with both the employers and employees, I have been able to give considerable attention with regard to openings for women workers. I spent one year in Victoria and one in Vancouver in making a special study of social questions, particularly in relation to women—thus coming in contact with the various women's organizations, civic authorities, magistrates and business men.

Conditions regarding labour must necessarily vary in different parts of the Dominion, but as the present excess of the male population over the female is much greater in British Columbia than in other parts of the Dominion, and as this province offers wider scope for emigrants, partly owing to its untouched productive areas and good climatic conditions, it is doubtless to this province that the tide of emigration will naturally flow.

I propose, therefore, in dealing with the question of women's emigration, to speak more particularly of British Columbia, though the suggestions I offer might be carried out in other parts of the Dominion.

POINTS FOR CONSIDERATION

(1) *Suitable types of Emigrant—*

(a) Obviously Great Britain would desire to encourage the emigration of those women who would find difficulty in obtaining employment after the war, many of whom might be skilled in various trades.

(b) As Canada desires to encourage the development of her great resources she would welcome emigrants who would settle on the land and create new industries.

(c) The trained worker thrown out of employment in Great Britain and who would carry on her own, or a similar trade in Canada, should be gladly sent by Great Britain and received by Canada, thus benefiting both countries.

(d) Though the suggestion of sending soldiers' widows and their families to settle overseas may at first sight appear to be mutually beneficial, there are very serious drawbacks to such a procedure. The pension which the widow and her family receives, though adequate for their maintenance in Great Britain, would be wholly inadequate in Canada, owing to the great difference in the money values. The widow would have to work in order to maintain her family, and as the facilities, as regards crèches, school children's dinners, etc., are fewer than in this country, the family would inevitably suffer in consequence.

Before proceeding further, I should like to call attention to what is generally looked upon as one of Canada's most important, if not almost

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the only, opening for women workers. One hears on all hands (except from domestics themselves) that there is a very great need for *domestic help*. We must not forget that we hear the same cry in England; at the present time there is little desire on the part of women workers to enter domestic service.

Further, the women who in England have followed industrial callings may not be fitted to undertake domestic work, and unless those who are so fitted were satisfied that they would have a certain amount of "free time" and opportunity for social intercourse they would refuse to undertake it.

(2) *Settlements*—

The Settlements might be (a) rural, or (b) urban or semi-urban, according to the type of emigrant, her training, physique and natural capabilities.

(a) *Rural Settlements*—In considering the land settlement of the returned soldier the Dominion Government might also consider the British woman immigrant, and in order to give some guarantee of employment and *social intercourse*, without which the idea of 'community life' would fall short of its aims and objects, I would suggest that one *cleared* lot in every 12 or 15 lots should be set apart in each returned soldiers' settlement for the reception of women workers.

This lot should be as near as possible to the centre of each settlement, and should be occupied by 10 or 12 women.

These women might undertake the lighter kind of agricultural and farm work, as well as dairying, poultry rearing, fruit and vegetable growing.

They might also undertake domestic work (with fixed hours of labour), laundry, baking, making of jams, pickles, etc.

There should be a trained nurse in each settlement, perhaps, also, a librarian and school teacher (trained in Canada), according to the size and requirements of the settlement.

In every case, three or four women at least should be of superior education.

(b) *Urban Settlements*—In addition to the rural settlements, *urban or semi-urban* settlements might be established in which manufactures should be developed. Some of the great natural resources of Canada are still almost untouched.

In the past, enormous quantities of foodstuffs, wearing apparel, and other commodities have been imported, chiefly from Great Britain, the United States, Germany and Japan. At present Japan is making rapid advances in commerce with Canada, and exports large quantities of cotton and silk goods, pottery, toys, etc., largely owing to the shortage of supplies from the European and United States markets.

The following are some of the trades which might well be carried on by British women immigrants in or near Canadian towns:—

Canned Fruits—Large supplies of peaches and other fruit are left to rot on the ground owing to the scarcity of labour and difficulty of transportation and high freight rates. Jams, pickles, chutneys and biscuits, largely imported from Great Britain.

Electrical fittings imported from United States and Germany.

Pottery and china, imported from United States, England, France and Japan.

Costumes, coats, etc., imported from United States, Austria, Germany and England.

Underwear, imported from United States, Great Britain, Germany and Japan.

Boots and leather goods, imported from United States and England.

Lead pencils, etc., imported from United States, Austria and Germany.

Herbs, medicinal and culinary, should offer an opening for a new industry.

In opening up new industries the Dominion Government would naturally obtain expert advice, and in most instances would doubtless find experts within the Dominion. Should there be difficulty in doing this, as might be the case as regards the establishment of the pottery industry, for example—British experts might be consulted, such as Mr. E. A. Werner, district inspector of the potteries, a man of unique experience in that particular trade.

(3) *Preparations in Great Britain—*

In order to facilitate emigration of women workers after the war, the Government might make use of the census taken of the former employment of those who are engaged at present upon the production of munitions and all other kinds of war work.

Those women who have shown aptitude for agricultural and outdoor work, including horse-breaking, dairying, etc., might be encouraged to settle on the land in Canada.

Those working in engineering shops might continue their trade overseas, or undertake electrical work (with fittings, etc).

Those who formerly worked in the production of pottery might create a new industry in Canada (where areas of suitable clay are as yet untouched).

Cotton and woollen weavers, now engaged on munition work, will be unable to return in large numbers to their former employment, owing to the inability of their employers to obtain large supplies of raw material. These women might carry on their trade in Canada *or* might be given employment in the manufacture of paper pulp, a growing industry on the Pacific coast.

Shop assistants, dressmakers, milliners and domestic servants should not be encouraged to emigrate in large numbers, as it is difficult to organize for them, and the demand (except the last named) is not particularly great.

There will not be an immediate demand for female clerical work. During 1914-1916 large numbers of women clerks were thrown out of employment, and the wages of those who remained were reduced to nearly half the previous rate.

(4) *Preparation in Canada—*

In order to ascertain the type and number of immigrants which Canada would be prepared to receive after the war, I would suggest that the Dominion Government should approach the Provincial Governments and request them to form commissions (this might be done in co-operation with municipal authorities) for the purpose of enquiring into the possibilities of land development, and industries which might advantageously be established within each province. The findings of these commissions should then be submitted to the Dominion Government by the Provincial Government.

BY-LAWS RELATING TO BILL BOARDS AND SIGNS

THE erection of advertising signs and bill-boards is a matter which requires careful consideration and control by municipalities. An owner's right to use his property must be limited, to some extent at least, in the public interest. The council of a municipality, being representative of the community as a whole, has to protect the liberties of the community from the license of the individual. In cases where the erection of signs and bill-boards interferes with the convenience and amenity of a city or town they are obviously things for regulation by a council. In so far as such regulation does not hamper productive industry and safeguards the general good, it is a sound regulation.

In regard to this matter practice varies in different countries, but there is an increasing tendency to protect both structural and landscape features, in town and country, from ugly signs and bill-boards. There are plenty of advertising mediums available to business firms without it being necessary to destroy the amenities of cities and rural districts for advertising purposes.

It is in residential towns particularly that the tendency to protect the public from such signs is growing.

ARGUMENTS IN FAVOUR OF REGULATING SIGNS, ETC.

Where the erection of an advertising sign on one man's property injures adjacent property by reducing its value, or is a nuisance to the people of the neighbourhood, it is a distinct interference with the liberty of the subject. Probably the man who owns that property may regard a restriction on him as real interference of this kind, but he holds his property subject to the city by-laws, which should be equitable in the interests of all the citizens and not favourable to one only. To interfere with the liberty of one in this case is to prevent interference with the liberty of a much larger number. That is what the city council is for, namely, to reduce interference with liberty to the minimum.

It is proved by the self-imposed restrictions which real estate owners put on themselves with regard to the erection of signs, that they depreciate the value of property for building purposes. It is in the special interest of residential towns to maintain values, because they derive their greater amount of revenue as a result of these values. By permitting bill-boards the assessable value of property is reduced in the district, and the ability of the owners of injured property to pay their taxes is affected.

The value to a town of having a good appearance is proved in every case where control of the appearance has been part of the policy of the city council. The best regulated suburbs are the cheapest to live in and the most profitable source of revenue is good class residential property. No other kind of property, even including factories, yields so much to the city and takes so little from it. To erect bill-boards is, therefore, to injure the most profitable source of revenue which the city has. It may be that it does this indirectly, and the exact effect can scarcely be traced, but everyone who is impartial on the subject knows that injury occurs in one form or another.

The whole tendency of governments is to prevent the erection of

structures which have the effect of injuring a neighbourhood merely for the benefit of single individuals.

PRACTICE IN DIFFERENT COMMUNITIES

The regulations in Outremont and Westmont, Quebec, are apparently the most advanced in Canadian cities.

In Outremont, Section 123 of By-law 87 reads as follows:—

"The erection or construction of any advertising sign, billboard or poster board is prohibited on vacant, public or private property within the limits of the town, excepting in the manufacturing district, described elsewhere in this by-law.

"This clause will not apply to real estate signs that may be erected on houses or vacant lots, provided they are constructed and secured to the satisfaction of the building inspector.

"Nor will this clause apply to commercial signs over stores and offices which may be attached to the buildings they are intended to serve, provided they are constructed and attached to the satisfaction of the building inspector."

It appears that this by-law has been adhered to in the past, but that latterly there has been a tendency to erect signs which, in the opinion of some citizens, are regarded as an infringement of the by-laws. This view, I understand, is contested by the city clerk, so that it does not appear clear whether the city council has gone back on its by-law or whether the by-law, in its operation, does not satisfy all the citizens.

In Westmont, a suburban city of Montreal, the town has been empowered to prohibit advertisements, by by-law passed by three-fourths of the members of the council. In March, 1908, a by-law was passed prohibiting the posting, painting, erection or other display of advertisements on fences, buildings or otherwise, except the display of trader and professional notices on stores, shops and dwellings. Any person contravening the by-law to the above effect was liable to a fine of from \$5 to \$20 or to imprisonment.

In July, 1910, the council passed an amendment to the above by-law, increasing the maximum fine to \$40 and costs and extending the term of alternative imprisonment.

The building by-law of Westmont also contains an article preventing the posting or erection of signs on fences, buildings, etc., except those of a trader at his place of business. It is prescribed that no such sign or advertising device shall project more than 8 inches beyond the street line.

In the larger cities there is no prohibition; although in most of them there are restrictions and permits are required. The practice in all other cities varies to some extent but, generally speaking, it consists of permitting bill-boards and signs, subject to approval of situation, construction, maintenance and size by the local authority.—T.A.

GARDEN SUBURBS FOR JERUSALEM

BEFORE the war an article appeared in the *Jewish Chronicle* giving the following interesting information:—

"The housing question in Jerusalem is one that is receiving considerable attention at the present moment. There are many fine buildings in and about the Holy City, but they are surrounded by what in this

country would be called slums. A few wealthy Bokhara Jews have, indeed, built themselves fine mansions, but the great mass of the population can scarcely afford to have decent houses.

"A project has accordingly been mooted in England of forming a small garden suburb outside Jerusalem, in which the houses would be let to the better class artisan, at a rental of something between £8 and £10 per annum.

"Land can be bought fairly cheaply on the outskirts of Jerusalem, and it has been calculated that a substantial little house, with half an acre of ground, could be provided for about £200. The garden could be planted with figs, olives, and kitchen vegetables, for which there is a market in the city, and the tenant would thus be enabled to add a little to his income by the care of his land. The houses would be laid out according to a plan which would preserve the natural beauty of the site. Communication with the city would be established by a 'bus, or possibly, if the concession could be obtained, by a tramway.

"The success of the Tel-Arbib, the colony outside Jaffa, augurs well for the proposed movement for Jerusalem, where the need is much greater than at Jaffa. If the scheme succeeds completely, it will certainly be the forerunner of many others. Besides, it will preserve the beauty of the hills around the Holy City. Sir John Gray Hill, who for thirty years has possessed a beautiful house on one of the spires of the Mount of Olives, is very much interested in this Garden City scheme."

CIVIC IMPROVEMENT IN TOWNSHIP MUNICIPALITIES

THE DEVLIN COMMUNITY CLUB AS AN EXAMPLE OF ORGANIZATION

IN January last the *Winnipeg Free Press* published an article entitled "Small Town," advocating the formation of community clubs. As a result of the article a Community Club has been formed in the village settlement of Devlin, Rainy River, Ontario. Similar community clubs, or leagues for civic improvement, should be formed in all townships. The improvement of the social conditions and the facilities for social intercourse in rural districts is one of the most pressing needs of Canada. The development of small towns with social attractions is the best way to get people back to the land. It is the middle course between the crowded and unhealthy city and the isolated, inaccessible, and therefore, unprofitable farm.

The Constitution of the Devlin Club is interesting as showing what a small village settlement can do. Other villages may want to proceed in other ways and adopt different rules, but they will find the example of Devlin worthy of emulation. In a letter to the *Free Press*, Mr. Fred W. Holmes, the secretary, refers to the handicap caused by timber farmers leaving vacant lands behind them after having exploited the district to the full in their own interest. He points out the disadvantage of a farmer working a farm surrounded by vacant sections, and how this prevents community organization.

The Club is planting shade trees in the village streets, erecting pavilions, and organizing farmers' institutes and entertainments.

Some government organization should be ready to provide moving pictures for occasional use in these village communities, and, in order to promote the landward movement, government aid should be given to the organization of clubs and institutes in rural areas with scattered populations. It is encouraging to read what Mr. Holmes says about the value of such a club in stimulating ambition to make improvements. "We found," he says, "that the getting together twice a month and talking over of our opportunities for development seemed to draw us closer together and give us an impetus for better things."

The following constitution of the Club is a sort of civic improvement pledge, which, if followed out in practice, should make Devlin an ideal community.

CONSTITUTION OF DEVLIN COMMUNITY CLUB

This organization shall be known as the Devlin Community club.

The object shall be the general improvement of the village of Devlin and community by each member pledging that he or she shall use their influence to make Devlin a better place to live in.

(1) By assisting their fellow residents of the village to improve the general appearance of their personal property by planting flowers, trees, etc., and keeping yards clean of refuse.

(2) We shall endeavor during the coming summer to keep our streets clean of refuse; we shall place garbage barrels at convenient points, where such refuse shall be thrown. We shall inaugurate this coming spring a clean-up day in Devlin, and we shall clean our streets and plant trees and beautify our streets as the club will from time to time see fit.

(3) We shall also endeavor to make Devlin a better place for the farmer to trade or do business in by providing accommodations such as our friends from the country require, namely, public stables, etc.

(4) We shall endeavor to interest outsiders in Devlin as a village and community centre, and encourage industries as will benefit Devlin and community.

(5) We shall endeavor to look after the welfare of our young boys and girls by providing amusements, etc., which shall make them content to remain in our midst, and in the agricultural pursuits in which they are raised.

(6) We shall endeavor to co-operate with our municipal council and school trustees on all occasions, for the general improvement of our community.

(7) We shall endeavor to co-operate with each member of our community, and by our deeds show that we believe in Devlin and community, and we will make our village and community a much better place to live in.

(8) We shall appoint a press representative and each member of the club shall endeavor to furnish each week bright, newsy items to the press representative, and he or she shall publish the same in the local and larger daily papers, when such items would be of interest or benefit to our community.

(9) We shall keep a scrap book for the purpose of gathering news from other community clubs, or like organizations. Each member who on reading an article that they believe would be a benefit to our community, shall cut such article out of the paper and bring it to the club, where it shall be read and then placed in the scrap book for future reference.

(10) With the above object in view this club shall raise moneys by various means voted on by the club, and such moneys shall be used for public improvements in the village.

(11) Meetings of the club shall be held on the first Wednesday of each month.

Community Clubs and Civic Improvement Organizations should become affiliated with the Civic Improvement League of Canada.



THE DISASTER AT HALIFAX—View overlooking the freight yards of the Intercolonial Ry., after the explosion and fire.

CIVIC IMPROVEMENT IN CANADA

NOVA SCOTIA

Halifax—The terrible tragedy which befell Halifax on the 6th of December last has created for that city a great task and a great opportunity. Under normal conditions citizens are too apt to look upon schemes for improving civic conditions as harmless efforts of well-meaning but impracticable enthusiasts. That attitude merely indicates to the well-informed the need for continued education and the value of Civic Improvement Leagues. When, however, a city is suddenly faced with devastation of a large number of its buildings, and attention is drawn by some striking incident to the hazardous and bunglesome way in which it has been developed, the whole city becomes a Civic Improvement League, for a time at least. For the next year Halifax will have its hands full to deal with the civic improvement that must be done—welfare and housing schemes, town planning and general reconstruction. We will have to wait some years to be able to tell how it has fulfilled its responsibilities.

The greater part of the work to be done will be performed by the Government agencies;—the Relief Commission, the Town Planning Board, the City Council and the Federal Departments. But the general body of citizens will make a mistake if they do not take hold of the Civic Improvement League of the city, strengthen its membership and make it a really live force in the community. It is idle to carp about mistakes after they have been made. Constructive suggestion is needed and the views of the citizens should be represented through the channel of a voluntary organization. The present is, therefore, a time for aggressive work on the part of the Halifax Civic Improvement League, and for the support of the League by the citizens.

Provincial Organization—Town planning in Nova Scotia made a splendid start with the passing of one of the best provincial Town Planning Acts in Canada. Unfortunately, however, the operation of the Act has been slow and this is largely due to the fact that the Provincial Government has not appointed a town planning controller for the province. The work of town planning is so special in character and the extent of the need for it in Nova Scotia is so great, that only the appointment of a whole time man with expert knowledge would be satisfactory. The need for expert assistance in the province has become emphasized, as a result of the special reconstruction problems which have to be dealt with in Halifax, and the appointment of such an officer would be an excellent investment.

NEW BRUNSWICK

St. John—During the present summer the St. John Town Planning scheme is likely to be completed. Part of the area belonging to the city of St. John has been planned in detail and the preparation of map No. 2, showing the proposed arterial highways, building lines, etc., has been completed but has not yet been approved by the Town Planning Commission. The provisions of the scheme are still under consideration and, as they have to be settled in consultation with the owners, it is probable that the scheme will still take a few months to reach the stage of final approval. Having the most advanced scheme in Canada, St. John will be able to show the way to many other cities and make it easier for these to prepare their schemes. It is not too early to say that the City Commissioners, the Town Planning Commission, the City Engineers, the Board of Trade and other local bodies have shown a fine spirit of co-operation and enlightened regard for the future of the city which is not always encountered in connection with proposals for town planning and readjusting of social conditions.

Provincial Organization—There is great need for a new department in the province of New Brunswick to deal with municipal affairs generally, particularly in relation to public health, town planning, housing, land classification and highways. It has been urged that it would be far better to set up one strong, well equipped department to deal with all matters of local government rather than to have two or three weak departments dealing separately with public health, highways, etc.

PRINCE EDWARD ISLAND

A Town Planning Act for the province of Prince Edward Island is being framed by the Town Planning Adviser of the Commission of Conservation, at the request of the Premier.

When an Act is passed in the Island province, there will only remain Quebec and British Columbia without Town Planning Acts. It is very probable that both these provinces will pass Acts during the present year.

QUEBEC

Montreal—The Montreal Civic Improvement League still continues to do valuable work in the city. With a number of other civic bodies it has been carrying on an aggressive campaign for improvement in civic government during the past few years. The most outstanding results of all these efforts is the law which was passed at the recent sitting of the Quebec Legislature, creating a form of commission government for the city. Setting up a Commission form of government often means substituting an autocratic for a democratic form of administration. It would seem, however, as if the Quebec Government had succeeded in framing an Act which will provide for efficient administration of the affairs of Montreal through an expert commission and, at the same time, not destroy the power of the people to express their will through a representative council.

The experiment in Montreal will, no doubt, be watched with interest throughout Canada, and it appears to be so theoretically sound that it will probably be imitated in other provinces.

Provincial Department of Municipal Affairs—Quebec has created a new department to deal with municipal affairs and given it very extensive powers.

The Act was assented to in Quebec on 9th February last and creates a department for the oversight of the administration and putting into operation of the laws respecting the municipal system. It is provided that a Deputy Minister of Municipal Affairs shall be appointed.

Under the Act considerable power is given to the Minister to control the municipal finances of the province and, according to the Provincial Treasurer who introduced the Act, it is contemplated that the Department should ultimately deal with such questions as town planning and housing.

The Quebec Act is a serious effort to set up an effective piece of provincial machinery to co-ordinate the work of the municipalities and secure uniformity of financial administration. Similar departments have been created in the Western Provinces, but Ontario and the Maritime Provinces are still without proper administrative machinery for dealing with local government.

ONTARIO

Planning and Development Act—Proposals for amendment of the Planning and Development Act, passed in 1917, have been submitted to the Ontario Government and a Bill has been introduced incorporating the amendments. The Act, however, does not deal with the usual questions in connection with housing, sanitation, heights and character of buildings and amenity, which are dealt with in the other town planning Acts in the Dominion. It is primarily concerned with street planning, which is only a small part of town planning, but within its limited field it is likely to serve a useful purpose.

Toronto—The proposed National Housing Conference to be held at Toronto during the coming summer has been fixed to take place in June. There is undoubtedly urgent need for the question to be made the subject of public discussion in the province.

Hamilton—The South-western Ontario Town Planning Conference is to be held at Hamilton in June next. Some preliminary work has been done in connection with the preparation of a town planning scheme for the city, and it is expected that before the conference meets in June it will be possible to bring forward some definite proposals for a scheme.

WESTERN PROVINCES

Civic Improvement Leagues continue to be formed in cities and towns in the western provinces.

The Town Planning Adviser of the Commission of Conservation intends to spend a considerable part of the next few months in assisting with the preliminary work connected with the application of town planning in the west. The unique character of town planning legislation, and the misunderstanding which many people have as to its meaning and object, have prevented consideration being given to the subject by local bodies. While there is any fear that the preparation of town planning schemes will involve expenditure of money there is likely to be a reluctance on the part of local authorities to apply the new powers which have been given to them by the Provincial Governments. Until there are separate expert officials in each province, giving their whole time to the question of housing and town planning, progress is likely to be slow.

The Board of Trade of Vancouver has reorganized its Civic Improvement Committee and is likely to take an active interest in town planning in British Columbia. As British Columbia is the only province in the west which has no Town Planning Act, this omission should be remedied.

HOUSE BUILDING AT POINTE-AUX-TREMBLES, QUE.

IN the last issue of CONSERVATION OF LIFE a few particulars were given of the scheme of La Société des Logements Ouvriers, operating in the town of Pointe-aux-Trembles, a suburb of Montreal. The following additional information has been obtained from the President of the Société:

In spite of the difficulties created by war conditions, including those arising from greatly increased cost of materials and labour, the Société has made considerable progress during the past year. It has built sixty-five substantial houses, with good gardens, fronting on well-paved streets.

The houses are rented at an average of \$200 a year, inclusive of local taxes. The garden spaces in the front of the houses are planted with trees and flowers by the Société, under the care of competent Belgian gardeners.

The financial arrangements of the scheme are claimed to be sound. The revenue from rents is sufficient to pay interest at 6 per cent on the bond issue of \$200,000, which has been made. Only \$1,000 per annum is paid for administration, this being the salary of a well-qualified girl secretary.

The Société owns 340 lots in the same vicinity. The interest on those lots is not taken care of and is not charged on the books until houses are built on the lots, as provided in the deed of purchase. This arrangement will work to the advantage of the Société when it continues the execution of the project.

The land was paid for at 10 cents per square foot, being \$250 per lot of 25 x 100 feet—\$10.00 per foot of frontage. It is expected that considerable profit will be derived from the sale of corner lots among the 340 held by the Société. When made, such profits, according to the charter of the Société, have to be invested as a reserve in the building of more houses, thus strengthening the financial condition of the Société.

AN AMERICAN ON BRITISH HOUSING

Mr. Frederick L. Ackerman, a New York Architect, recently visited England for special study of war housing. In answering the question of what Britain was doing to improve the social conditions of its workers, he says: "The answer which the British Government made to this question was one *expressed in action and not in words*. Adequate living conditions were provided. There was no hesitation. Land was seized. Communities with schools, churches, hospitals, clubs, markets and the amenities were provided. A high standard was maintained, and these communities stand today as an expression of good judgment, far-sightedness and a *substantial future asset*; for it must be remembered that there will be in Great Britain a serious shortage of homes for those who labour after the war. Some of these communities created during the urgency of war will stand, in post-war days, as monuments to British thoroughness."—*The American City*.

"SCIENCE is a beautiful thing, undoubtedly, and of itself well worth all the labour that man may bestow upon it; but it becomes a thousand times grander and more beautiful when it becomes a power; when it becomes the parent of virtue. This, then, is what we have to do; to discover the truth; to realize it out of ourselves in external facts, for the benefit of society; in ourselves, to convert it into a faith capable of inspiring us with disinterestedness and moral energy."—GUIZOT.

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CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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THE HOUSING PROBLEM AND PRODUCTION

"The housing problem is becoming more acute in its complex relations and is now being given most serious consideration not only in various civic centres but also by federal governments. It is a recognized fact that men will not remain in any community where they are not comfortably and properly housed. The opportunities to-day are too numerous and transportation too easy for labour to stay in any one spot under discouraging circumstances and undesirable surroundings."—Canadian Lumberman and Woodworker.

AMONG other things which the war has established is that efficiency in production of any kind depends to a larger extent than has been realized, hitherto, on the housing and social conditions of the workers. As a result of the past three years' experience we have been made to see very clearly the extent to which the output of war industries and the production of food depends not only on the organization of labour but also on the conditions under which the labourer lives.

THE NEW TOWN OF ROSYTH

As pointed out in an article in the last issue of CONSERVATION OF LIFE, Britain has been the first of the allied countries to fully appreciate the importance of this question, and so far has been the most courageous in finding a solution for it. Reference was made in that article to the great developments that had taken place in connection with munition factories established at Gretna, in Scotland. In addition to these and numerous other developments a modern housing scheme is being carried out in connection with the new naval base at Rosyth, on the river Forth, for the accommodation of admiralty workers. This housing scheme is being carried out by a housing company, promoted by the Local Government Board of Scotland. In several directions the company has initiated a new kind of housing development in Scotland which will have a great social value in connection with reconstruction after the war in addition to its value as a means of winning the war.

Before the scheme was started consideration was given to the town planning of the whole of the area of land that lies between the city of Dunfermline and the naval base, covering a stretch of open country many square miles in extent. The day has probably passed when any important housing development in Britain will take place on land that has not been made the subject of a town planning scheme. Building

regulations of the old stereotyped kind are no longer regarded as adequate in Britain to control the development of land for building purposes, and the modern scientific method is to regulate the main features of development in advance by a flexible and comprehensive scheme.

The new town of Rosyth will be planned as a portion of a general town planning scheme prepared for the Dunfermline area and, according to the description of the resident engineer, is likely to become one of the model garden cities of Great Britain. It is significant that such a statement can be made with regard to a housing scheme that is being promoted directly for war purposes, since there are large numbers of people who believe that to win the war it is waste of time to devote attention to the permanent construction of dwellings when it is presumed to be so much easier to build temporary shacks. Such theories, however, have been shown to be fallacious, since it has been proved that the provision of good homes, and not only good homes but also recreation facilities, are essential to secure contented and efficient workers.

The dwellings being erected at Rosyth are all constructed of durable materials and form part of what is intended to be a permanent scheme of development. Sixteen hundred houses have been erected or are in course of completion since 1915; 1,100 of these houses are already occupied, with an estimated resident population of 5,500. Mr. Ross Young, the resident engineer, says that practically all of the houses have been constructed with 11-inch hollow brick walls, covered externally with cement roughcast and with slate or tile roofs. In the later developments the one and a half storey type of house has been abandoned in favour of the two-storey type, as the latter has been found to be more economical and capable of being erected more expeditiously. The houses have been built in groups of two, four, six and eight, the average in each group being, approximately, five. The plans have been standardized according to seventeen different types, and variation in external appearance has been secured by the introduction of brick facings in doors and windows, tile hangings, etc.; also in many cases by the grouping of the houses around squares, quadrangles and semicircles. Streets have been constructed in accordance with the expected requirements of traffic. Most of the houses have a large living room with three bedrooms, scullery, bathroom and other conveniences.

IMPROVEMENT OF STANDARDS IN SCOTLAND

When it is considered that typical Scottish dwellings in the towns in the past have been the tenement apartment, consisting of two or three rooms, it will be appreciated that a great advance has been made by building the houses at Rosyth according to the much improved standards of the English garden village. Mr. Ross Young concludes a description of the scheme as follows:

"With a view to economy and expedition, the houses have been shorn of all useless ornamentation, and their appearance depends more upon the proportions than upon architectural efforts in other directions. Back wings have been entirely eliminated, while breaks in buildings have been reduced to a minimum.

"The cottages have been built at an average density of 12 per acre, with a maximum density of about 16 per acre. A large area of

land has been laid out in allotments, while a public park, extending to about 40 acres, has been provided in the heart of the area developed for the scheme.

"Sites have been set apart in appropriate places for shops and other public buildings, and when these are erected the new town will have the appearance of a complete garden city. The new city is beautifully situated, with woods and green fields surrounding it, and is destined to become one of the model garden cities of Great Britain within the next few years."

WELL HALL SCHEME, WOOLWICH

A plan and brief description of a housing scheme carried out by the British Government at Well Hall, Woolwich, London, is shown on the opposite page. The character of the houses is also shown on the two accompanying views. As stated, these houses have all been erected since 1915. The houses are occupied by workers in the Woolwich arsenal. The British people have no longer any illusions as to the waste and uselessness of temporary and makeshift schemes. Sir William Robertson has expressed agreement with the view that the ratio between the effort required to be made in money and energy by the civilian population in prosecuting the war, as compared with the military effort, is 75 as against 25 per cent. Adequate housing is needed to make some of the most active portions of the 75 per cent efficient, and to prevent the wastage caused by industrial disputes.

The architecture of Well Hall is simple but beautiful and no sacrifice has been made for purely æsthetic reasons. This scheme has been carried out by the Office of Works, corresponding to the Department of Public Works in Canada. The Gretna scheme is under the control of the Ministry of Munitions, and the Rosyth scheme of the Local Government Board of Scotland.

The architect in charge of the planning and construction at Well Hall was Mr. Frank Baines, C.B.E., M.V.O. In an article on housing read before the Royal Sanitary Institute, Mr. Baines points out that the question of the site and its natural qualities must dominate the whole of a housing scheme and its lay-out. He states that the most important types of cottages needed for workers are those containing (1) living room, parlor, scullery, and three bed-rooms with bath; (2) living room, scullery, three bed-rooms with bath. The proportion provided in Mr. Baines' schemes is four of (1) to one of (2). Two bed-roomed houses and two storey flats have been provided in a few cases and are very popular with certain tenants. The great skill which has been shown in connection with the design and grouping of the houses at Well Hall, and the regard which has been paid to the æsthetic and hygienic aspects of the buildings without any sacrifice of utility, make it an example worthy of serious study by those who have the power to direct housing operations whatever the local conditions. But Mr. Baines himself points out that every scheme has to be thought out on its merits, with proper regard to the locality and site, and the circumstances which govern each case.

Rosyth and Well Hall are examples of what Great Britain is doing to provide homes for her workers at the same time as she is prosecuting the war, and, indeed, as part of her policy in promoting that object.

The United States has seen the wisdom of the British example in this connection and is proposing to carry out housing schemes wherever

they are needed to help in securing increased output in war industries. It is, therefore, somewhat strange that so little has been done in Canada to increase housing accommodation since the war started, and that so far no federal, provincial or municipal government has initiated any housing scheme.

HOUSING SHORTAGE IN CANADA

In Canada, as in Great Britain and the United States, there is the same need for increased housing accommodation in connection with war industries and the same difficulties in securing the provision of such accommodation by means of private enterprise. Capital which is available in normal times for building purposes is no longer obtainable. Such capital as is available can only be had at a much higher rate of interest than before the war. In addition to the increased cost of capital, and the difficulty of obtaining it, there has to be faced a greatly increased cost of material and labour, so that the building of houses to-day will probably involve a total cost of from 30 to 60 per cent above that of houses that had been built immediately before the war. When erected under such adverse conditions houses cannot be made to pay an adequate return on the cost of erection. Under the operation of the law of supply and demand it will take a few years of shortage of dwellings to force the rental values to a height which will enable new buildings to pay a proper return to the investor. It is natural, therefore, that the private builder should suspend operations for the present and engage in work of a less precarious kind. It is almost certain that prices will recede to some extent after the war and this will involve loss to those who build under present conditions.

Faced by such a situation, a country at war can only act in one way if it wants to secure the maximum of production according to its population and other resources. It must step in and assist with the provision of houses, or at least with the provision of capital, and share the greater part of the responsibility for any loss that may accrue as a result of building houses during the war. It is not suggested, of course, that governments can do a large proportion of the building that is required to meet the present shortage. All that they will be able to do will be to lessen the shortage that is directly connected with war industries and ship-building plants. In war industries must be included the production of food, and the building of additional cottages for workers in rural districts is one of the great needs of Canada. When the various governments have done everything that can be done to stimulate the provision of dwellings needed for war purposes, there will still remain a housing problem of great dimensions to be solved by the country and requiring urgent attention in the near future. The solution of that more general housing question will be easier if war housing is undertaken in Canada as it is in the other allied nations.

This general housing problem is becoming acute in a number of Canadian cities. In the *Manitoba Free Press* of May 8th, 1918, it is stated that the number of marriages registered at the city hall during the years 1915-16-17 was 7,798 and that during the same period only 135 dwellings and nine apartment blocks have been erected in the city. A housing survey is being made in five districts of the city with the object of ascertaining the sanitary and other conditions of working-class dwellings. As against the above figures of dwellings erected in the last two



GOVERNMENT HOUSING SCHEME, WELL HALL, WOOLWICH, 1915.—View in Gilborne Way looking west. Note narrow cheap street and utilization of space between street and garden as a children's playground free from danger.



A NARROW STREET IN WELL HALL, WOOLWICH.—This street is wide enough for air space—about 30 feet—and the saving in land and cost of construction as compared with a wide street enables the houses to be provided of good quality at a low rent.

years, no less than 3,392 dwellings and 149 apartment blocks and office buildings were erected in 1913-14. The *Health Bulletin* of the city suggests that, as a result of the growing shortage of houses, the doubling up of families is on the increase and in some cases the Health Department has discovered three to eight families occupying single dwellings as tenement houses. Quoting Mr. Robert Dexter, of the Charity Organization Society, the *Montreal Daily Star*, of June 1st, says that 5,406 marriages took place in Montreal and only 542 new houses were erected. In Toronto, the increase of population is proceeding at a rate which means that only one-tenth of the houses required to accommodate the increase are being erected.

SOME SPECIAL ASPECTS OF THE CANADIAN PROBLEM

Part of the difficulty in Canada is due to the low standard of comfort which foreign labourers are willing to accept in order to save money. One Austrian labourer in Winnipeg is described as living in a single room in an overcrowded tenement house, for which he pays \$3.00 per month rent, although his earnings are given as \$100.00 a month.

While to some extent the solution of the problem of the uneducated foreigner living in unsanitary homes depends on education, the fact that it does so in no way lessens the responsibility of the city authorities to enforce proper restrictions on the use of dwellings so as to secure healthy conditions.

Slum districts and tenements do not confine their evil effects to their own prescribed area, but spread disease and bad conditions into even the best parts of the city. They not only lower vitality, but they injure the city from a financial standpoint, both because of the increased cost of public health administration they involve and because of the low assessable value per capita which occurs when people live in poor and overcrowded dwellings.

The population of a country at all times tends to drift, following the available means of employment, and causes overcrowding in one part of the country at the expense of depopulation of another part. With the creation of war industries in certain special places this drift increases and follows the industrial development. In some of the industrial cities and towns congestion has been the result, and so far as this congestion is directly traceable to the war, it should be dealt with by government housing schemes. There is a great deal of overcrowding in Montreal and Halifax and the situation in Toronto is such that the Manufacturers Association has taken the matter up and passed a strong resolution on the subject.

The Brantford Board of Trade, according to the *London Free Press* of 13th April, 1918, has decided to launch a company for the erection of 100 workingmen's dwellings in Brantford during this summer. Local manufacturers have offered to provide capital, owing to the scarcity of houses in the city, and already \$100,000 has been promised to enable the plan to be carried out.

THE HOUSING PROBLEM AND RETURNED SOLDIERS

There is another part of the problem which has not yet reached a head but is certain to assume a serious character in the near future. With the present shortage of houses, to meet the natural increase required by newly married people and to afford accommodation for industrial

workers, there is going to arise a big demand for houses to accommodate returned soldiers. This question has been discussed by the G. W. V. A., and a delegate of the association has been appointed to interview the premier of Ontario. In a resolution passed by the association, it is stated that the housing situation in Toronto and in the large cities is unsatisfactory, both in regard to the accommodation to be obtained and the rents which have to be paid. The effect of this condition is already being felt by those returned soldiers who are trying to adjust themselves to civilian life. If this be the condition to-day with so few of the soldiers returned from the front, what is it to be when very much larger numbers come back and have to be absorbed into the social life of the country?

One very promising feature in the resolution passed by the G.W.V.A. is its recognition of the value of gardens and allotments as a result of what the soldiers have seen in England. It is hoped that the experience they have gained in this direction will stimulate them to urge the cities and towns to acquire considerable areas of vacant land for the purpose of permanent use as allotments. The difficulties of creating these garden allotments in Canada are, however, greater than in England, because of the false idea which prevails here as to the high value of suburban real estate. In the suburbs of an English city, agricultural land retains its purely agricultural value until it is quite ripe for building—hence it is easy for a city or town to acquire that land or to rent it and subdivide it in gardens for the workers. Fields of garden allotments are to be found scattered throughout England and in some cases even in the central districts of cities and towns. London has a large number of these fields throughout its suburbs. Owing to the speculation in subdivisions around Montreal, Toronto and other cities, a fictitious value has been given to land which is not required for building for the next 40 or 50 years and which ought to have been used for gardening if this speculation had not taken place.

The need for allotment gardens, or, what is perhaps better still, large gardens attached to the homes of the workers, and small farm holdings, will be greatly increased as a result of the need for finding outdoor employment for disabled soldiers. A great many men, who will not want to take up farming as a sole means of occupation or livelihood, will want an opportunity to produce their own vegetables and to get some outdoor work near to a city or town in which they can earn the major portion of their income from the factory and get the social intercourse which they desire.

The resolution of the G.W.V.A. recognizes all these things, but it should be borne in mind that the housing question cannot be solved for one class, no matter how deserving. No solution of the housing problem for the returned soldiers will be effective or satisfactory if the Government limits its consideration to that one aspect of the question.

The problem of shelter for the people of the country cannot be divided into compartments. It has to be solved in relation to the supply and demand of the whole people, although, of course, the fact that the shortage of houses is beginning to hit the returned soldiers makes it of all the greater importance that some effort should be made to arrive at that solution.

The article in the last issue of *Conservation of Life* related primarily to the need for more housing accommodation being erected as a means of prosecuting the war, since it was shown that skilled workers could

only be made contented and efficient if they were properly housed. We see, however, that there is not only a scarcity of houses in the neighbourhood of industrial plants dealing with war production, but a general scarcity which is likely to become more acute and a great national evil in the near future if some attempt is not made to increase the supply of houses and arrest the emigration and doubling up of families which is resulting from the present shortage.—T.A.

SALVAGE OF WASTE MATERIALS

SHOULD we have a national organization to salvage waste materials in Canada? Good conservation work is being done by women's organizations in cities, but there is no organized national effort.

The American Civic Association, impressed with the vital need of conserving and utilizing the great mass of waste material in communities throughout the United States, sees the necessity of inaugurating a campaign for salvage on a great national scale. Should not a similar movement be started in Canada? The demand for raw materials is increasing every day because of the vast destruction of war. By the collecting and re-utilization of waste material this demand can be partially met, many of millions of dollars will be saved, the drain upon transportation facilities lightened and the price of raw materials appreciably lowered. By the sale of this waste a steady income can be realized for the support of war relief work through the Red Cross and the Y.M.C.A., thereby eliminating the frequently recurring drives for funds. During the war the returns from community salvage should be applied to the work of the two great war relief organizations, but the habit of saving and utilizing waste having been formed and a source of revenue established, it is the purpose of the above Association after the war to have part of this income devoted to local civic needs.

The salvage plan has been successfully tried out in Los Angeles, U.S., where the idea originated with Mrs. Otheman Stevens, and where a steady income has been established for the local Red Cross Chapter. From Los Angeles the movement extended to Kansas City, Missouri, where the work was organized by Mrs. John Allen Dougherty, and where in the first month an income approximating \$1,200 was derived for the support of war work. As an example of the possibilities of salvage as a source of national revenue, it is only necessary to cite the returns of the salvage of the English army, which amounted, in less than two years, to fifty-two million pounds sterling.

In pursuance of this object the American Civic Association has formed a National Salvage Committee, with Mrs. John Allen Dougherty, who organized the salvage work in Kansas City with such splendid success, as chairman. The National Committee will act, from its headquarters at 914 Union Trust Building, Washington, D.C., as an advisory board, and will appoint a chairman in each state, who will name her own committee and organize her state as closely and actively as possible. The local committees will work under the state committees and report to them. Because of the importance of securing the best markets for the waste, the National Committee has appointed a sales advisor, who will ascertain and advise the state committees as to the best markets in the various sections of the country. Methods of proce-

ture, based on the Los Angeles and Kansas City organizations, are given below in brief, and each state and community will adapt the methods to local conditions.

The salvage of such waste as paper, metals, rubber, leather, cotton and wool rags, old clothes, etc., means the saving of an enormous amount of money, and the forming of habits of national economy which the exigencies of war demand as part of our effort for victory which can only be achieved by the utilization of every power and every bit of material which the allied nations possess.

From the experience of committees already established in Los Angeles and Kansas City, it is deemed wise, so far as possible, to ascertain where the best market can be found for certain articles of waste that have a recognized market value, such as old papers and magazines, cotton and wool rags, tin and lead foil, old bottles, etc., before the collections are made so that they can be immediately disposed of. This can be ascertained through the local second-hand dealers, as a beginning. In both Los Angeles and Kansas City it has been demonstrated that every bit of waste that was collected could be disposed of either through the local second-hand dealers, regularly established 'rummage sales' under the auspices of the committee, or by selling back to the manufacturers of such articles as paste-board boxes, tin boxes, typewriter supply boxes and ribbon spools. In connection with the latter method of sale, the committee in Kansas City went directly to the typewriter companies and users of pasteboard boxes and asked them if they would be willing to use them a second time if they were stamped with a 'salvage' label. This was agreed to, and in some cases the articles were resold as many as six times. There should be no limit placed on the kinds of articles that will be accepted, for with intelligent and persistent effort a market can be found for everything. A list of articles that have been collected and marketed by the Kansas City and Los Angeles committees is appended hereto.

In connection with the collection of the waste, a central depot or district depots must be established, in charge of competent heads, who will receive, and in case the articles and materials are not sorted in the homes or business offices from which they are collected, sort the waste. The co-operation of the local stores and business firms in the loan of trucks, the co-operation of Boy Scouts and Girl Guides, and in fact of all organized societies in the community, is necessary in the collection of community waste. Weekly collections are found to be most easily handled, and a direct appeal, as well as appeals through the newspapers, to the householders, stores and business firms, to save and keep in separate assortments all their waste, to be called for at stated intervals, should meet with encouraging results.

PARTIAL LIST OF ARTICLES OF WASTE COLLECTED AND MARKETING

Tin and lead foil, folded flat; collapsible paste and paint tubes; lead, brass, copper and aluminum waste; old gold, silver, and broken bits of jewelry; typewriter ribbon boxes and ribbon spools; old motor licenses; motor car and bicycle tires; rubber of all kinds; books, magazines and newspapers, which must be folded once and tied securely both ways; burlap sacks; clean cotton and wool rags, tailor clippings and remnants; glass fruit jars, cold cream jars, bottles of all kinds rinsed clean; tin cans with fitted lids and tin boxes (no tin cans that are opened with an opener); old batteries; hair switches and hair combings; buttons; old

window shades; old knives and forks and spoons; clothing; furs; furniture; bric-a-brac; pictures, etc.; paste-board boxes in good condition, and innumerable other articles.

SHOULD GOVERNMENTS CONSCRIPT LAND OR REGULATE ITS USE?

"It is estimated that there are approximately 30,000,000 acres of good farming land in Manitoba, Saskatchewan and Alberta in the districts served by railways. This is the land upon which soldiers should be settled and upon which incoming settlers should be placed until it is all in use Let the government conscript it at a price about one-half its value for productive purposes."—Grain Growers' Guide.

TO conscript land at half its real value—probably much less than the fictitious value now given to most land as a result of speculation—would be to confiscate real property. Whether the government has given such vacant land as a consideration to railway companies, or whether it has been purchased by the present owners, it has been acquired under contract, and to make such a contract a 'scrap of paper' would not be in keeping with principles of social justice.

Of course no such contract should confer on the owner the right to use his property to the injury of his fellows. Life is higher and more valuable under the law than real property, even although the courts have not always held it to be so, and land should not be permitted to be used in such a way as to injure life—say as the site of a slum or for a skyscraper with dark rooms. Nor should land be permitted to be held except for productive use. But both the protection of life and the prevention of absentee ownership of land can be effected without confiscation. To confiscate private rights in land would not only be opposed to justice, but would have the effect of driving capital and private enterprise away from land as an investment, thereby causing serious injury to the country. Conscripting of life is on a different footing—since it does not involve the breaking of a sacred contract. It is the duty of every citizen to defend his country—subject to equality of treatment. For the same purpose it is the duty of all owners of wealth to contribute to the measures needed for defence; but the contribution should be collected on a uniform basis, from owners of all forms of wealth. We should deal with bad ownership by direct prevention or punishment. The right to ownership of land under proper conditions should be encouraged.

Now it is admitted that the holding of land in an idle state is improper ownership. How should that be prevented? Placing an extra tax on such land is not entirely satisfactory. For the government to collect a tax on bad use of land or non-use of land is to make it a partner in the impropriety of the owner; and when the tax becomes a sufficient burden to really punish the owners it is often uncollectable.

To promote the economic use of land in rural parts of Canada and to prevent its unhealthy use in crowded cities, are two of the most urgent problems before the country. The first step required is for the governments themselves in their capacity of owners and developers of land to set a good example by eliminating from their policies and administrative machinery everything that encourages speculation. Some

of the worst examples of speculation in Canada have been initiated by governments and large corporations having the support of governments. The present methods of land settlement and transfer still give every encouragement to speculation.

In cities the improper and crowded use of land should be prevented by adequate building regulations and town planning schemes. *In both the cities and the rural districts it should be made illegal in future for any person to acquire a title to any area of land except for use.* This would merely be extending the principle at present in force in connection with homesteading, to all landed transactions. The effect of such a law would be to eliminate most of the competition which now raises the value of land against the bona-fide user. If I want a lot to build a home I have usually to compete with numbers of others who may want it for speculation. That is why the sites of our homes are so dear. Real estate operators, whose proper function should be to act as agents for the transfer of property, have, as things now are, become primarily speculators and only as a secondary sense agents for others. If land could only be bought for use this would limit the holdings of such operators and all other speculators to what they needed either for homes, business, or production. And why not? The land was originally alienated from the government at a nominal price or for nothing—under a contract (specific or implied) that it would be used.

When the governments, through their colonization departments, have adopted a proper method of land settlement and show a good example to private owners, and when they have made such a law as is suggested, to prevent the acquisition of land except for purposes of use, there will still remain the big problem to settle of how to deal with existing owners of unused and badly used lands.

Bad use can only be prevented by restrictions and development schemes under town planning legislation accompanied by some form of tax. Unused lands should be dealt with as follows: The law having first provided that the purchaser of land must have some object of use, then existing owners of idle lands should receive notice to sell all such lands within a period of five or ten years or to show cause why they should not sell it or themselves put it to economic use. By selling it in the open market they would receive for the land its full value as a usable article. It is true that the price of land would fall—but only from its fictitious speculative value to its usable or revenue producing value. When land has reached its revenue producing value for a proper and healthy purpose, it will attract more capital than at present; it will be a proper subject for investment of trust funds; it will make it certain that it will be used to the best purpose; and industry and production will no longer be burdened with the losses due to excessive speculation. High land values do not constitute wealth, but on the contrary are a tax on wealth.

The returned soldier would get land more easily by direct purchase. Land near to the railways would be 'cheaper' for many years than land obtained for nothing in remote districts—until the demand by users overtook the supply. If the government wanted land to develop closely-settled communities for soldiers it would be able to buy at a reasonable price, and lose little or nothing on the transaction.

One advantage of the proposed reform would be that a proper and equitable basis would be obtained for valuation of land for assessment purposes, which is not possible to obtain under present conditions.

Another would be that cheap land would be made available for housing schemes and waste land having no productive value would be available for open spaces.

It is not suggested that the land question would be solved by the measures proposed in this article; but it is suggested that no solution can be effective which does not begin by making it illegal to hold land except for healthy and proper use.—T. A.

CIVIC IMPROVEMENT LEAGUE OF CANADA

WESTERN CONFERENCE AT VICTORIA, B.C., JULY 9-11, 1918.

A JOINT conference of the Civic Improvement League of Canada and of the Union of Canadian Municipalities will be held at Victoria, B.C., on Tuesday, Wednesday and Thursday, July 9, 10 and 11, by the kind invitation of the Mayor and Council of that city. In the absence of Sir John Willison, the Chairman of the Conference, Ald. W. R. Owen, of Vancouver, the Vice-Chairman will preside.

The two organizations under which the conference is to be held have common objects, but represent different groups of persons interested in municipal life. They are both engaged in the work of arousing increased public interest in municipal affairs and in the advancement of the best principles and methods of municipal government.

The Union of Canadian Municipalities is the only national organization representative of members and officers of municipal councils.

The Civic Improvement League of Canada is a voluntary organization of citizens, formed under the auspices of the Commission of Conservation, with the general object of stimulating public interest in municipal matters and promoting improvement of civic conditions.

Owing to the war, it is desirable to hold conferences of municipal representatives and interested citizens, in order to exchange views regarding how the municipalities can assist in prosecuting the war at home and make provision for the conditions after the war. Such questions as shortage of dwellings, which are of special urgency at the present time, have a direct connection with production and output of munitions and food.

Notwithstanding the desirability of such conferences being held, it is not easy at present to arrange meetings of a widely representative character, owing to the difficulties and expense of travelling. The Civic Improvement League, therefore, is not holding any Dominion conference this year, but is co-operating with other organizations to hold meetings in widely separated provincial centres. The conference at Victoria gives an opportunity for a joint meeting between the League and the Union

of Municipalities which should be to the benefit of both organizations.

PRELIMINARY PROGRAMME OF MEETINGS

Tuesday, July 9th—

11 a.m.—Registration.

2 p.m.—Address of Welcome, by the Hon. J. Oliver, Premier of British Columbia, and Mayor A.E. Todd, of Victoria.
Members of League may attend meetings of Union of Canadian Municipalities.

Discussion of effects of war, etc.

8 p.m.—War banquet in Empress Hotel. All delegates of both Union and League, including ladies, are invited.

Wednesday, July 10th—

10 a.m.—Members of League may attend meetings of Union of Canadian Municipalities.

Subjects for discussion:

“Maintaining of Municipal Credit,”

Thomas Bradshaw, Esq., Commissioner of Finance, Toronto.

“Federal and Provincial Relations to Municipalities.”

“The Consolidated Railway Act, etc.,” W. D. Lighthall, Esq., K.C.

“Toronto and Niagara Power and Light.”

“Present Position of Uniform Accounting, etc.,”
H. T. Ross, Esq.

A Business Session of the League will probably be arranged for Wednesday morning; announcement will be made on Tuesday.

2 p.m.—JOINT MEETING. Special session of Civic Improvement League of Canada. Ald. W. R. Owen, Chairman, Vancouver Board of Health, presiding.

Subjects for discussion:

“National and Municipal Housing,”

Discussion opened by Mr. Thomas Adams, Town Planning Adviser, Commission of Conservation.

“Municipal Responsibility in Regard to the Economic Development of Land,”

Discussion opened by Mr. J. N. Bayne, Deputy Minister of Municipal Affairs, Saskatchewan.

General Discussion on

“The Returned Soldier Problem” and

“The Necessity for Vocational Education.”

Evening—Visit to Shipyards at Esquimalt.

Thursday, July 11th—

Members of the League who wish to remain over are invited to attend the Thursday sessions of the Union of Canadian Municipalities.

The following is the programme of the Union for Thursday—

10 a.m.—Subjects for discussion:

“How the Cities Can Assist in the Food Crisis.”

“Present Position of Municipal Ownership.”

“Western Power and Light Question.”

Noon —Rotary Club Luncheon at Empress Hotel.

2 p.m.—Auto tour to Saanich peninsula and Observatory. (View of second largest telescope in the world.)

Evening—Open air entertainments at Cordova Bay and Oak Bay.

Invitations to the above Conference have been sent to those who have registered as Members of the Civic Improvement League in British Columbia and Alberta and to Boards of Trade and Local Councils of Women which have Civic Improvement Committees. All who are interested in the improvement of Civic conditions are invited to attend the meetings.

ENGLISH HOUSING AFTER THE WAR

THE number of houses required in Britain at the close of the war is variously estimated at from 500,000 to 1,000,000. The local authorities have indicated that in their opinion something between 200,000 to 350,000 are required. As pointed out by the *Town Planning Review*, these figures are not necessarily mutually antagonistic—the 200,000 probably represents the minimum needed to meet part of the overcrowded conditions and 1,000,000 probably takes into account a large part of needed slum clearance. As the cost of dwellings has increased about 60 per cent in England during the war, and £200 (\$1,000) was a reasonable figure to allow for a workman's cottage before the war £300 (\$1,500) may be taken as a minimum estimate of the cost of building houses during and after the war. Therefore, it may be estimated that the minimum and maximum requirements represent a capital expenditure varying from at least £60,000,000 (\$300,000,000) to £300,000,000 (\$1,500,000,000). It is when we come in contact with these astonishing figures that we realize the immensity of the task of centralizing the work of housing as opposed to leaving it to private enterprise.

STATE VERSUS LOCAL ENTERPRISE

Mr. Hayes Fisher, President of the Local Government Board of Great Britain, said, at Manchester, on November 6th, 1917:

“The first guiding principle was that the local authorities must go into partnership with the State.

“The State, if it was wise, would neither build houses, nor own, nor control them. That had been proved by experience to be a very expensive arrangement. The local authority would have to make the contracts for building the houses and to fix the rents.”



VICTORIA HARBOUR, VICTORIA, B.C. EMPRESS HOTEL ON THE RIGHT.—Note the opportunity for destroying this part of the city or for improving it, according as the vacant sites on the middle left may be developed for building purposes.



SMALL RANCHES OUTSIDE VICTORIA, B.C.—Seen from Mount Douglas. This class of holding of appropriate size should be developed to a larger extent in Canada. The promotion of more intensive methods of cultivation around cities should be carefully considered in connection with the returned soldier problem.

TOWN PLANNING IN BRITISH COLUMBIA

THE EXAMPLE OF VICTORIA

THERE is no province in Canada which offers such good scope for the scientific development of its resources as British Columbia.

The exceptional beauty of the province is the result of a widely varied topography, consisting of high mountains and deep valleys, wonderful harbours and inlets, flanked with steep hills and rocky cliffs; great rivers and fertile plains; and sites of picturesque charm and great utility for cities and towns.

Gridiron plans for cities and rural districts had some justification in the past in the flat prairie provinces, however wrong they may appear to be in the light of the greater knowledge of to-day; but such planning in British Columbia is a crime against both nature and society, and an economic blunder of the worst kind. And yet the power of convention and the tendency to imitation has been so strong that no natural obstacle has been permitted to stand in the way of the rectangular plan in a country where its application is freakish and crazy to a degree. In British Columbia, as elsewhere, however, there is a gradual awakening to the folly of laying out land of varied physical character as is found in the Pacific Province in geometrical patterns, and to the fact that land cannot be planned on sound economic principles unless regard is paid to natural conditions. Serious as have been the losses to the people of the province by wasteful planning and by speculation in rectangular lots, by creation of deep cuts, steep grades, and sunken lots in such cities as Vancouver, Victoria and Prince Rupert, and the extravagant method, or want of method, of allowing sub-divisions to control the extensions of local improvements instead of making the best and most economical methods of constructing local improvements to control sub-divisions; serious as have been these evils, there is still time to rectify most of them, or, at least, to arrest them, if the matter is taken in hand at once. The passing of a Planning and Development Act similar to what exists in the other provinces will give the people of British Columbia the power, through their municipalities, to regulate their development on proper lines. Such an Act is needed, not more in the towns than in the country districts, to enable the future development of farm lands to be carried out in a way which will secure successful and permanent agricultural settlement. Failures in settlement of farm lands have been mostly due to three things, namely, forced settlement of bad land, want of transportation or other facility for distribution, or high cost of good and accessible land to the user as a result of speculation.

These things are controllable to a large extent under rural planning and development schemes, so far at least as future developments are concerned. In the cities and towns the urgent need of town planning is everywhere recognized, although, owing to a misunderstanding of what is meant by town planning, it is still assumed by many that it is only concerned with what is called by the ugly word 'beautification,' and, therefore, is only another scheme for spending the money of the citizens. It has, consequently, to be repeated over and over again that the chief object of planning is to save the money and health of the citizens which is now being wasted—in spite of good municipal administration in most



GRAZING MEADOWS NEAR VICTORIA, B.C.—The kind of territory that should not be planned in rectangular form—but in accordance with the topography and the purpose for which it is to be used.

cities—owing to the haphazard and extravagant method of developing land without plan, exercise of foresight, or regard for its best economic use.

VICTORIA

British Columbia has, in its capital city of Victoria, a city that has suffered to some extent by rectangular planning and land speculation, but which in some aspects of its structural development has demonstrated the value of proper planning of land, grouping of buildings, and conservation of its features of natural beauty. Victoria is one of the finest cities of its size on this continent. It not only occupies a site which is endowed with great natural beauty, but, on the whole, its citizens have made the most of their opportunities to improve it. While a community cannot take credit for anything that is given to it by nature, it has full responsibility for the artificial uses to which it puts its natural endowments, and for the extent to which it conserves or destroys its natural environment. A well-planned, well-governed city should—like a well-planned house—fit in and link up with its natural surroundings, and should not appear as an ugly excrescence on the landscape. Purposes of utility must be carried out and some destruction of nature is inevitable in industrial communities, but the fault—where there is a fault—is in wanton destruction beyond what is necessary for any purpose of utility, and the absence of proper control over structural development, especially in regard to the grouping of public buildings.

The beauty of the Victoria harbour front is a matter of which the citizens of British Columbia may well be proud, because they have done

the unusual thing of helping to improve nature. The public buildings erected by the Provincial Government and the Canadian Pacific Railway Company are harmoniously grouped in relation to each other and to their environment. Each unit of building is a contribution to the beauty of the whole composition and, on the other hand, the charm of the whole adds to the dignity and strength of each unit.

As is shown in the illustration of Victoria Harbour, p. 64, there are vacant sites on one side of the harbour, and the opportunity is still open to further enhance or to destroy the surroundings of the harbour front, according as these sites are properly or improperly developed with buildings. No matter how well-intentioned the citizens may be, some vigilance will be necessary to secure the right kind of result.

THE SURROUNDINGS OF VICTORIA

The farm lands which surround a city or town are really part of it. According as they are well or ill planned and developed, the measure of



A HEAVY-MILKING HERD NEAR VICTORIA, B.C.—Increased production needs to be stimulated by encouraging more intensive development of fertile areas near to the markets and means of transportation.

well-being of the city is increased or decreased. A model city should be fringed round with a permanent agricultural belt, with the city growing up on its inner and outer sides—each part of the built-up area being linked up by means of rapid transit. Victoria has an agricultural belt of rich market garden and dairying lands.

It has suffered less than some western cities in regard to the sterilization of its suburban lands by excessive sub-divisions, and in close

proximity to the city are to be found small, highly cultivated ranches which should be the complement of every city. In all civilized countries it is being learned, as never before, how manufacture and agriculture are mutually dependent on each other and how necessary it is in the interest of prosperity that the maximum of production should be obtained from fertile lands lying nearest to the markets.

In these and other respects the capital city of British Columbia provides an example which should be a source of inspiration to the rest of the province in its future town-planning work.

FUTURE OF VICTORIA

The natural advantages of Victoria, including its low variation in temperature, and the rarity of its atmosphere, are likely to lead to its rapid growth in the future. In its neighbourhood retired persons and returned soldiers can find ideal conditions for residence. The stimulus which has been given by the war to shipbuilding and other forms of industrial activity on the Pacific coast is nothing to what, likely, will be given when the war is over and the full advantages of the Panama canal and the opening up of new channels for maritime trade on the Pacific can be realized.



THE NEW DOMINION OBSERVATORY, situated
on Saanich hill, eight miles from Victoria.

Victoria is the gateway through which millions of American tourists will pass to enjoy the great beauties and cool breezes of the British Columbia coast. The movement of the Royal Naval College to Esquimalt may be a temporary measure, but the time is bound to come when a permanent naval school will be established in the west. Victoria has also become the centre of the Astronomical Research department of the Dominion Government. A new observatory has just been built eight miles from Victoria, which contains the second largest telescope in the world. This telescope weighs 60 tons and has a mirror 72 inches in diameter.

Whether it be for residence, industry, or pursuit of scientific knowledge, Victoria has therefore unique opportunities for development. But natural opportunities are of little advantage if they are not developed



RESIDENTIAL DEVELOPMENT AT CAULFIELD, B.C.—In rural and suburban development greater cost need not be incurred than at present to secure pleasant environment dwellings. The conservation of existing natural features and the employment of simple forms of architecture produce the most beautiful results.

under skilled advice and accompanied by some measures of social and industrial organization. The opportunities of a community give the measure of its responsibilities, and according to that measure the citizens of Victoria and other parts of British Columbia have an immense task to perform. If they have failed to appreciate their opportunities in the past, they have done so in common with all other democratic peoples who have exaggerated the individual in comparison with the social conception of liberty, and pursued false economic standards.

NEED FOR AN ENLIGHTENED SOCIAL POLICY IN BRITISH COLUMBIA

In all democratic communities we must direct our political policies in future so as to put freedom of life for every citizen on a higher plane than freedom of use of property for the few; we must pay the price for the best skilled advice available; and we must hamper all forms of speculation that create a tax on production. British Columbia is young enough to enable it to apply the teachings of science and modern economic thought to the building up of its social and industrial life, a position which must make it the envy of older nations where social evils are too deeply rooted to be capable of remedy; and one of its first duties is to establish a skilled department of colonisation to deal with the social and industrial development of the province on business and scientific lines. The health and social well-being of the citizens would be the first consideration of such a department, if its object were to build up prosperity and not merely to attract new victims for the speculator. The operation under such a department of an act to control the planning and

development of land would enable the province to lay the foundations which would ensure a stability and prosperity that is enjoyed by the peoples of few nations.

But whether the province has or has not the courage to create a new organization of the government to regulate its future growth, it can at least give the opportunity to the cities and towns to inaugurate a better system of planning under an enabling town planning act. The passing, and, what is more important, the proper administration, of such an Act will depend on the co-operation of the municipalities with the Provincial Government and there is every reason to believe that that co-operation will be forthcoming.

THE BEST SOLUTION OF THE HOUSE PROBLEM

COMPETITION OPEN TO THE UNITED STATES AND CANADA

THE *Journal of the American Institute of Architects* and the *Ladies' Home Journal* announce a competition, under their joint auspices, organized for the purpose of securing the best solution of the problem of the small house. The competition is open to Canadians and the jury includes one Canadian representative. A similar competition has just been completed in Great Britain and has been of great national service. Architectural and building conditions in Canada are very similar to those in the United States and the American competition should be of as much value to the Dominion as to the neighbouring republic.

In announcing the competition the *Journal* of the Institute states that the full solution of the problem will only be obtained when society is prepared to grapple with and correct those fundamental laws which have produced congestion and slums, and that the architect can only make a partial contribution, however important, towards that solution. Speculation and other evils are permitted to grow unhampered in spite of the loss and damage they entail to the community. The *Journal* believes that the time has come when the futility of charity and the hopelessness of restrictive legislation as applied to housing must be recognized, and a positive and constructive programme be adopted as a basis for future effort.

The competition is being arranged in the expectation that it will help to create a deeper and wider knowledge of the factors which govern the problem of providing decent houses for all workers.

The competition will be in three parts:

- Part I.—The Social Purpose.
- Part II.—The Economic Method.
- Part III.—The Physical Plan.

All competitors will be required to submit the following:

Under Part I, a thesis, in which there shall be set forth the social purpose which house-building should seek to attain.

Under Part II, there must be described the proposed economic method of financing and administering the community to be created and maintained without likelihood of slums and the general deterioration which usually has accompanied unchecked private development.

Under Part III, there shall be submitted a rough sketch plan to show the physical scheme of the proposed development. The prizes,

which are offered jointly by the *Journal of the American Institute of Architects* and the *Ladies' Home Journal*, are as follows:

The winning solution	\$1,000.00
The second prize	500.00
The third prize	250.00
The fourth prize	150.00
The fifth prize	100.00

The competition is open to all citizens of the United States and Canada, who may enter singly or in groups as they desire. All treatises and plans must be sent prepaid to the office of the *Journal of the American Institute of Architects*, The Octagon, Washington, D.C., on or before October 31, 1918. No submissions will be accepted unless the requirements as to the three parts are fully complied with. A detailed program will be sent on receipt of request.

The jury will be as follows: Thomas R. Kimball, president of the American Institute of Architects, Chairman; Louis F. Post, Assistant Secretary, Department of Labour, Washington, D.C.; Thomas Adams, Town Planning Adviser, Commission of Conservation, Ottawa, Canada; Herbert Quick, Farm Loan Board, Washington; Lawson Purdy, Chairman, Committee on New Industrial Towns, New York City; James Sullivan, Representative of the American Federation of Labour on the Council of National Defence, Washington, D.C.; Edith Elmer Wood, Legislative Authority, Philadelphia; Frederick L. Ackerman, Architect, New York City; Milton B. Medary, Jr., Architect, Philadelphia.

HOUSING, TOWN PLANNING AND CIVIC IMPROVEMENT IN CANADA

NOVA SCOTIA

Halifax—Civic improvement in Halifax chiefly centres round the work of restoration of the devastated portion of the city; but the fact that this work is proceeding is not delaying the preparation of comprehensive town planning schemes for the city and its environs.

There are six town planning schemes in course of preparation, one for the devastated area, one for the remaining undeveloped portion of the city, and four for parts of the country area adjacent to the city.

A preliminary plan for the devastated area has been prepared by the Town Planning Adviser of the Commission of Conservation, and a survey is now being made of the area by the Town Planning Assistant of the Commission. Part of the area is being expropriated to enable the plan to be carried out. Messrs. Ross & Macdonald, of Montreal, have been entrusted with the work of designing the houses.

New Glasgow—There is urgent need for a housing and town planning scheme being prepared for the district surrounding New Glasgow, where great industrial developments have taken place in recent years. The industrial unrest in this district, as elsewhere, cannot be dissociated from the unsatisfactory social and housing conditions.

Liverpool—At the annual conference of the Union of Nova Scotia Municipalities to be held in August, the subjects for discussion include that of the planning and development of Nova Scotia, to be opened by the Town Planning Adviser of the Commission of Conservation.

NEW BRUNSWICK

St. John—The County Municipality of St. John has appointed a Committee to confer with the Town Planning Commission of the City of St. John. A conference

between the Committee, the Commission, and the Town Planning Adviser of the Commission of Conservation took place on the 18th of June. Considerable progress is being made with the preparation of the details of the scheme.

PRINCE EDWARD ISLAND

The government of Prince Edward Island has passed a Planning and Development Act for the province. The unique feature of this Act, which in most other respects follows the Draft Act of the Commission of Conservation, is the provision it makes for the appointment of a Planning and Development Commission for the whole province. An engineer has been appointed to act as Director of Planning, and the first steps have been taken to secure the preparation of a plan for the new town of Borden. The Town Planning Adviser of the Commission of Conservation is acting as consultant to the Provincial Government in connection with this scheme.

QUEBEC

Work has been started in connection with the building of the new town at Timiskaming, which was planned by the Commission of Conservation for the Riordon Pulp and Paper Company.

ONTARIO

Progress continues to be made with regard to the Hamilton town planning scheme. Meetings have been held in recent months in different parts of the province at which a strong feeling has been expressed as to the desirability of widening the scope of the Ontario Planning and Development Act.

The U. S. Steel Corporation has now completed plans of the new town of Ojibway, which will be described in the next issue of CONSERVATION OF LIFE. At the request of the Railway and Municipal Board of Ontario the plan of the Corporation was submitted to and approved by the Town Planning Adviser of the Commission of Conservation.

The Ontario Government has appointed a strong committee, with Sir John Willison as Chairman, to enquire into the housing problem in the province and recommend what action should be taken to deal with it. The problem has become very acute in recent months and is having an injurious effect on the output of munitions.

The action of the Provincial Government has followed on representation made to it by the Manufacturers' Association, the G. W. V. A. and other influential organizations. The resolution of the Manufacturers' Association urges the Dominion, Provincial and Municipal governments to seriously consider the whole question of housing reform. The Association submits to the Dominion Government that "immediate progress can be made by enlarging and emphasizing the work of the Housing and Town Planning Branch of the Commission of Conservation."

SASKATCHEWAN

The Town Planning and Rural Development Act of Saskatchewan is now in force. Procedure regulations are in course of preparation by the Department of Municipal Affairs in consultation with the Commission of Conservation.

BRITISH COLUMBIA

A draft Town Planning Act for British Columbia has been prepared and will be the subject for discussion, at meetings which have been arranged for that purpose, with a view to securing the introduction of the measure at the next meeting of the provincial parliament. A joint conference of the Civic Improvement League and the Union of Canadian Municipalities will be held at Victoria on July 9th, 10th and 11th.



“THE industrial communities which I visited in England were but an expression of the national attitude toward the organization of industry. This attitude was not the product of war; war simply gave emphasis to an already acknowledged truth that the first and foremost factor in production is the conservation of human resources.”—Frederick L. Ackerman, in the Journal of the American Institute of Architects.

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CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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OCTOBER, 1918

Commission of Conservation
Canada



Conservation of Life

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PLANNING NEW TOWNS IN CANADA—OJIBWAY

FOR many years, all over the North American continent, there has been a strong tendency on the part of manufacturers, having occasion to erect new plants, to remove from congested city centres to more open and cheaper locations in suburbs of cities and even in rural territory. The movement has grown rapidly in Montreal and Toronto, and, with the growing improvement of transportation by road, is certain to be accelerated in future. The results of the movement should make those who are interested in municipal progress ponder as to its future outcome. Does it mean that in some respect large cities are so lacking in foresight and so neglectful of their real interests as to be forcing the process of their own disintegration? While cities and towns have been following the suicidal process of letting growth take place without proper plan, and without adequate engineering advice and sufficient regard for public health in many cases, some of them have been attempting to attract manufacturers by means of bonuses and fixed assessments. These kinds of attractions, however, appeal only to the least important, and very often to the financially insecure, manufacturing interests. If cities and towns want to get and keep large industrial plants they will have to change their methods and take more interest in making their cities more convenient, attractive and interesting and their housing conditions more healthy and pleasant in their environment; and this can only be done to a satisfactory degree if more science and business judgment are applied to city building.

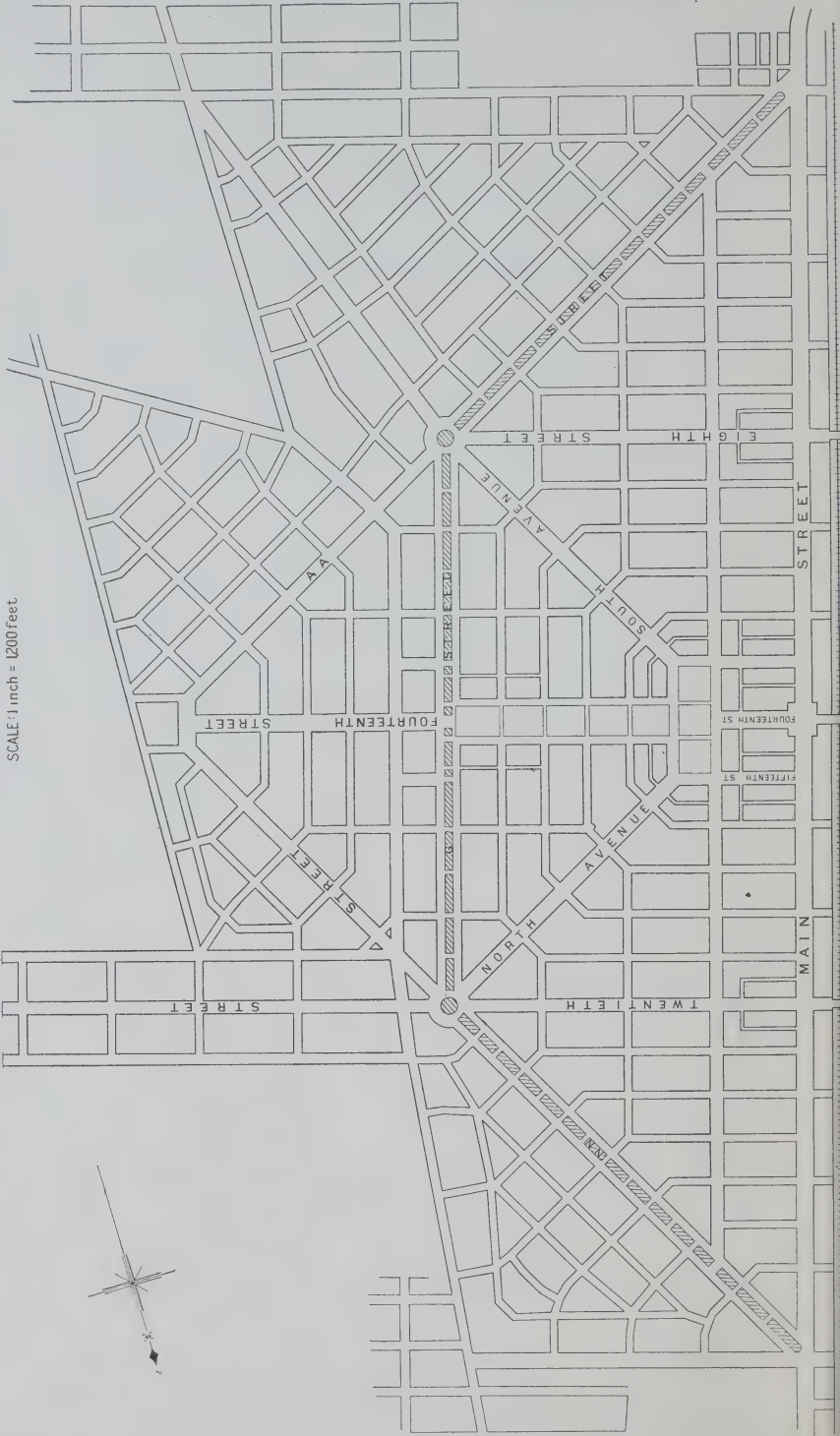
Those who have experienced the need for more scientific development of towns, and have seen evidence of the practical advantage of such development, have found, nevertheless, that it is difficult to convince the average man that the planning of towns and adequate control of building development and public health are not fads of well-meaning but impracticable enthusiasts. It is the result of the policies which have been pursued in the past, under the erroneous idea that has tended in large measure to drive out large manufacturers from existing cities, thereby depreciating property and lowering the financial stability of cities.

But this decentralising movement is no longer confined to the removal of industrial plants from one municipal area to another. It has taken in recent years a much more interesting and formidable shape. Many large industrial concerns, in selecting new locations for their factories, are nowadays acquiring not only sufficient land to house their workers but sufficient to enable them to erect complete new towns, and they are, moreover, finding the capital and skill needed to build these towns.

Systems of laying out and managing cities under our municipal governments will, in the future, have to bear the test of comparison and competition with private enterprise applied to town-building, and it would seem as if private enterprise were going to score unless new methods are employed by the completely self-governed cities and towns. When a manufacturer has the financial means to acquire sufficient

PLAN OF TOWN OF OJIEWAY

SCALE: 1 inch = 1200 feet



land to build a new town, when he is able to locate the town adjacent to his plant, to employ the best expert advice in laying out wide means of arterial communication and of economic and durable road construction, give plenty of light and air-space to the dwellings occupied by his workers, provide parks and institutes for recreation in convenient places, avoid disorderly and wasteful construction of temporary dwellings and dangerous tenements, and when he can obtain continuity of skilled management to the whole enterprise, he will be able to start it with many advantages in comparison with those who control the development of existing towns. With a proper system, public administration should give as good results as private administration, and at the same time safeguard us against any weakening of our self-governing institutions.

The plan of Ojibway, which is shown on the accompanying illustration, is one of a number of towns and suburbs which are being built in Canada as a result of the above movement. The Canadian Steel Corporation, an off-shoot of the United States Steel Corporation, having decided to erect a large plant in Canada, did not go to an existing city to select a site. No doubt, if they had chosen to put themselves up to an offer from a city or town, they could have had not only free land but the utmost degree of immunity from taxation permitted by law, as well as the benefit of existing public services, such as roads, sewers, water, etc. These things, however, do not appear to have attracted them. What they apparently desired was a site where, given existing facilities for transportation and for obtaining power, they could get cheap land, ample room for expansion, the environment they required for their workers, and the benefit of the economies to be effected by planning a town in advance. It may, therefore, be inferred that it is the want of these things in existing cities that is compelling manufacturers to do their own town building.

The site of Ojibway, selected by the Steel Corporation, is adjacent to the municipalities of Windsor, Sandwich, Walkerville and Ford. Sufficient land has been acquired by the corporation to provide for the accommodation of their employees and the many others who will want to live in the town for the purpose of supplying the social needs of the workers.

THE TOWN PLAN

The plan has been prepared by Mr. Owen Brainard, consulting engineer of the architectural firm of Carrière and Hastings, New York. The area of the townsite which has been planned can accommodate a population of 20,000 inhabitants, under wholesome conditions. It is proposed to start the erection of 300 houses within the next year.

The Steel Corporation will provide the streets, sewers, and other improvements, which it is proposed, ultimately, to turn over to the town of Ojibway at cost.

The corporation is not carrying out the plan of direct control over the construction operations in the town with the object of replacing self-government by bureaucratic government; it is merely carrying out, temporarily, the direct control for the purpose of expedition and as a safeguard against confusion. It is not intended that this relation of the corporation to the work shall be carried further than is absolutely necessary to enable it to secure that at least the central part of the town will be developed on the best principles known to modern science as applied to town building.

Plans of towns and subdivisions in Ontario have to be approved by the Railway and Municipal Board. Under the Ontario by-law relating to streets all streets must be 66 feet wide, unless the board consents to a narrower width, with a minimum of 50 feet. Most of the streets on the Ojibway plan are only 50 feet in width. Before approving the plan the

board requested the opinion of the Town Planning Adviser of the Commission of Conservation as to whether the streets were of sufficient width and whether the omission of alleys in the residential blocks was not undesirable from a sanitary point of view.

The following is a copy of the report:—

REPORT ON OJIBWAY PLAN TO THE RAILWAY AND MUNICIPAL BOARD,
BY TOWN PLANNING ADVISER

'(1) *Width of Streets*:—I have examined the plan of Ojibway, and consider it to be satisfactory from the point of view of the layout, disposition and width of streets.

'Under the Ontario laws it is required that all streets shall be 66 feet in width, unless the Railway and Municipal Board is satisfied that a lesser width will be sufficient for the purposes of traffic and air space. This bylaw has the unfortunate result of making the standard width, in most cases, 66 feet wide, whether a street be intended for a main thoroughfare or for purely residential purposes. Many streets, under such a law, are of necessity far too narrow and others are unnecessarily wide.

'On looking at the Ojibway plan I observed that provision was made for very wide streets for the main thoroughfares but that the greatest lengths of street were of the comparatively narrow width of 50 feet. It appeared from the plan, however, that the average width of all the streets was greater than the required 66 feet. To make certain on this point I communicated with Mr. Brainard, as to whether the superficial area included in the streets shown on his plan was greater or less than the area which would have been included if all the streets had been 66 feet wide. It appears from the reply received that the street surface shown on the plan comprises 89,000 square yards more than if all the streets had been 66 feet wide. Moreover, it is shown that, by setting houses back 30 feet, there is ample provision made for light and air within the property line of the buildings. It seems to me that the only objection which the Railway and Municipal Board might take to the inclusion of streets of less than 66 feet wide would be on one of the following grounds:

(a) That the 50 feet was insufficient for the future traffic requirements of the town.

(b) That the board would be creating a precedent which would lead to undesirable results in other cases.

'In regard to the first of these matters, the plan shows adequate provision for traffic distribution in its main thoroughfares. Some of these are diagonal routes of ample width and capable of carrying any reasonable growth in the traffic, even if the town, ultimately, become a large city. The streets which are 50 feet wide are certainly adequate for all local purposes and as connections between the main routes.

'The second possible ground of objection is met by the fact that the average width of all the streets is greater than it would be if they were of the legal width throughout. If the Railway and Municipal Board were to establish this as a precedent it would only act in accordance with the most advanced expert opinion on the subject of streets. It would not be making any distinction between the Steel Corporation and the small subdivider who provides 66 feet in width in all cases, because, in the case of the Steel Corporation, the average street width is not diminished, but rather increased.

'2. *Recreation Space*:—The only omission I note on the plan is with regard to recreation space. This matter has not been referred to me, and I have no information regarding it. It may be that provision is made in the form of leaving some of the blocks as playgrounds, or in the form of park areas outside of the town area shown on the plan. In view

of the desirability of such provision being made, I would suggest that the plan be approved, subject to a recommendation to the Steel Corporation that an area equal to one acre in ten, that is, 10 per cent of the land used for residential purposes, should be set aside for parks and recreation. In this 10 per cent area might be included the 89,000 square yards of extra street space, most of which will probably be in the form of boulevards and parkways. Subject to this recommendation, I think the plan should be approved, and that an effort should be made to secure that the land surrounding the estate of the Steel Corporation should be laid out on the same principles and with the same liberal provision for convenience and amenity.

'3. *Alleys*:—Alleys are always desirable in the business sections of towns, where there is a high density of building, high values of land, absence of front access to buildings, need for daily traffic delivery, and desirability of rear openings to high buildings for light and air. Provision is made in Mr. Brainard's plan for alleys in the business section; the plan is, therefore, satisfactory to that extent. In residential areas it is usually undesirable, from a sanitary and economic point of view, to have alleys. They are convenient for purposes of providing rear access to buildings, removing ashes and garbage, and putting in a supply of coal; also useful for placing telegraph and telephone poles, sewers, etc., if planned to accommodate these things from the outset. In order, however, that the first of these advantages can be obtained it is necessary for the alleys to be wide enough for two streams of traffic to pass through them, namely, a width of 18 feet, and also that they should be paved and lighted. The second advantage is only obtainable to a satisfactory extent when the whole sewerage and wiring service of the town is specially designed to follow a complete system of alleys, and when the rear garden lots are shallow.

'The disadvantages outweigh the advantages under average conditions. Some of the most important disadvantages are:—

(a) The practical difficulty of paving and lighting both a front street and an alley at a reasonable cost. If a house occupies a frontage of 40 feet, and the cost of paving the front carriageway and sidewalk, providing sewers, etc., amounts to \$7.50 per foot front, the total cost per house would be \$300. If an alley has also to be paved the cost will be about \$10, or a total of \$400. Added to the cost of a lot (say another \$400), this means that \$800, equal to one-third of the value of a small house, has to be spent on the site and access to it. Then the alley has also to be lighted and maintained. If it is to be kept tidy and free from nuisances it must be inspected, thus increasing the cost of policing. In practice these expenditures are not incurred, for the average man cannot afford them. What happens, as a rule, is that the alley is not paved, and is not maintained, cleaned or lighted. It becomes insanitary, a nuisance, and a menace to the health of children who use it for play. In many cases, the fact that alleys are provided also results in front streets being left unpaved. The high cost of doing the whole thing properly results in nothing permanent being done, except perhaps the sidewalks. Moreover, the alley robs the garden of land that might be put to good use, if the lots are shallow; and, in cases where the lots are deep, it is of little advantage for putting in coal or removing garbage. In process of time it becomes a front street, with buildings erected upon it. This is a serious menace in Canadian cities, where alleys have been insisted upon in subdivisions.

(b) When the cost of making proper alleys in residence areas is incurred it has to be done at the expense of more necessary things, the building, the garden and the front street. An average

citizen has only a certain percentage of his income to spend on a home. If he builds his own home, the amount he has to spend on an alley reduces the amount he has to spend on his house, lessens the garden space, and increases the necessity of occupying a narrow frontage to save cost of local improvements. The Canadian Steel Corporation is able to give good garden space, a wide set-back and comparatively wide frontages at a reasonable cost per house, and would probably have to lower their standards in these respects if they had to make alleys.

'It is assumed, of course, that houses in Ojibway will be in small groups, pairs, or detached, and that there will be access to the rear of the premises from the front street. In my judgment it is more important to require that proper access from the front be provided to each house than that alley-ways be provided.

'In the above I have been dealing with the pros and cons of alleys in a rectangular street plan, such as that prepared for Ojibway. In a different type of plan it is an advantage to have narrow private lanes or streets, so designed as to prevent them from being used for through traffic; and in many cases alleys can be justified in spite of the above objections. In the plan submitted for Ojibway, however, I think that the omission of alleys in the residential parts of the town is an advantage from a sanitary point of view.—THOMAS ADAMS.'

This report shows how desirable it is to fix the width of streets under town planning schemes instead of according to a general and inelastic bylaw.

Those who have not understood the reason why objection is made to the 66-feet minimum width, which is required by the Ontario law, will find a good illustration of the reason in the report. The Canadian Steel Corporation could not afford, on a sound economic basis, to adopt a minimum of 66 feet for the width of its streets unless they cheapened the houses in order to pay for the excessive amount of street space and pavement, or, alternatively, unless they did without wider streets for main traffic routes. Under Mr. Brainard's scheme the majority of the working-class dwellings will be erected on streets of sufficient width for all possible traffic requirements, and additional air space will be obtained by setting back the buildings on the lots. As a result of the narrower widths in the majority of residential streets, a large saving will be effected by having shorter sewer connections, water connections, and paving or boulevarding.

That saving will be a contribution towards better building. On the other hand, as the report shows, because the residential streets are narrower the designer has been able to include wide avenues (80 to 120 feet in width and the central parkways 300 feet in width), representing the giving to the town of a greater superficial area in streets that would have been the case if each of the streets had conformed to the Ontario law, which, in effect, causes all streets to be of one width, no matter how varied their purposes and duties may be.

The corporation propose to plan the buildings in square form, so as to avoid the objectionable type of houses with three rooms deep, and the intention is to use slate, asbestos or metal roofs on all buildings, and walls of brick or terra cotta blocks with stucco or brick veneer.

The information in this article with regard to Ojibway is not to be taken as representing any definite programme of the Canadian Steel Corporation. The corporation has selected its site and has had the plan prepared for its development, but its general policy and programme are still undetermined, and the plan itself may be subject to modification as development proceeds.

PUBLIC AND PRIVATE STANDARDS IN TOWN BUILDINGS

Unfortunately, it has to be admitted that the standards of town development, in regard to planning, sanitation and building construction, which, so far, have been attainable under our combined municipal and public health administrations, are not equal to those of some private bodies, such as the Steel Corporation. As already stated, it is partly because of the defects of public standards that the Steel Corporation has had to create new standards of its own both in the United States and Canada. Have we to continue to admit that our self-governed communities cannot obtain as good results for the governed by proper town planning and regulation of land development and building construction as can be obtained by private corporations with limited statutory powers and without any direct responsibility to the public? Is our municipal control of land development so defective that, in spite of having public services, local improvements, houses, and every business facility already existing and concentrated in a small area, we cannot offer the large corporation as good advantages as it can obtain outside of the city, even when to obtain them it has to incur the great cost of providing these services and facilities out of its own capital?

These questions need the consideration of our provincial governments and municipalities, if we are to conserve the values of municipal resources which have been built up at the cost of the citizens. Our great cities need the comprehensive plan, not because it is theoretically the proper thing to do to enable future development to proceed on healthy and economic lines, but as a means of self preservation. There is a group of able thinkers who see in this process of industrial decentralisation a national boon to be obtained at the price of the break-up of huge cities—which in their present congested state are regarded as a calamity. If great cities, however, are properly planned and directed in their growth they need not have congestion; and, while it is desirable that they should be spread out over wider areas, and that the penetration of rural districts by industrial plants should continue, it is even more desirable that the twin process of relieving the congested areas and building new towns and suburbs outside the cities should be properly planned and organized. Only by this means shall we be able to conserve our community resources simultaneously with promoting sound development in the future.

Streets, buildings, and means of transportation need to be considered in relation to one another instead of as things apart. The direct cost of sky-scrapers is infinitesimal compared to the indirect cost which, in the aggregate, they entail on the communities which suffer from the congestion they create. The traffic congestion of New York is being relieved in the present year by the construction of underground railways at enormous cost to carry three billion passengers a year, but the president of the railway company says that this is the merest stop-gap and that "the traffic congestion in 1928 will be greater than in 1918." The migration of industries to country districts is going to afford more relief to that problem than seems to be dreamed of, but, as this migration proceeds, it will take away from the cities one of the chief sources of revenue on which they rely to pay interest on their huge expenditures on remedial measures.

The least that can be said on the subject is that it is more than time to deal with the intricate problem of city development on sound business principles. Above all, cities and towns have a right to ask provincial governments to give skilled leadership and guidance in municipal matters and in connection with the control of land development where hitherto there has been merely bureaucratic interference with the petty affairs of

local government, and not a little encouragement instead of discouragement to the evils of land speculation.

What is happening at Ojibway is an illustration of the need for a skilled Department of Municipal Affairs in Ontario. While Ojibway is being planned, the adjacent municipal areas are growing up without plan. They not only appear to be indifferent to the fact that one of the reasons for the Steel Corporation not selecting a site in one of their areas may be put down to the fact that municipal development under present haphazard conditions is so expensive and wasteful that it is cheaper and better for a private corporation to meet the great cost of building its own town, but they appear unwilling to benefit from the lesson this conveys. If that lesson had been learned we should now have in preparation a comprehensive plan for the five border municipalities adjacent to Ojibway under the guidance of the Provincial Government and aided by statutory powers conferred on the municipalities by a proper Town Planning Act.

What are the facts? While the private corporation at Ojibway is planning to build a model community, nothing is being done to protect the borders of the corporation estate from the encroachment of the worst forms of slum property. Considerable areas all round Ojibway have been laid out in small lots and thrown open to speculation. Many of these subdivisions are placed where there is no water supply available and where no sewers can be provided at reasonable cost. As has happened in the case of other model towns built under the direction of the corporation, *e. g.*, at Gary, Indiana, the work of the corporation will be largely vitiated by the erection of insanitary shacks around its outer fringes. Thus the character of the development permitted under public control is not only bad in itself, in such cases, but destroys much of the value of what is achieved by private enterprise. There is still time to prevent this destruction, if the matter is taken in hand by the Provincial Government and the municipalities, by the passing of town planning legislation and the preparation of a comprehensive scheme for an area which will one day be the site of a great Canadian city.

TOWN PLANNING IN BRITISH EAST AFRICA

THINGS go slowly in Africa,' wrote Mr. Henry Stanley Newman twenty years ago, in describing a visit to British East Africa.

The pace has quickened somewhat since that time, or the governing authorities are evidently wise enough to learn from the experience of others in the settlement of a new country.

A bill intitled "An Ordinance to Provide for the Making of Town Planning Schemes" has just reached the Commission of Conservation from Nairobi, the capital of the East Africa Protectorate. Twenty years ago Nairobi did not exist. In 1899, the site of the present town was chosen as the headquarters of the Uganda railway, and, for some time, nearly all the inhabitants were railway officials and coolies engaged in the construction of the line. When the excitement of a new venture had worn away, however, the need for social amenities and home life developed, and when, in 1902, it was found that the surrounding highlands were suitable for European settlement, the business of home-making began. Nairobi steadily grew in importance and, in 1907, the headquarters of the administration were transferred from Mombasa, on the coast, to Nairobi, northwest 327 miles. The city stands on a plateau, 5,450 feet above sea level, in the midst of an agricultural country. It has at present about 14,000 inhabitants, of whom 800 are European and 3,000 are Indian.

The administration of British East Africa has undertaken to consolidate the colony by means of a Town-planning Act, which, if rightly administered, will save the country from the mistakes and misfortunes that follow in the track of unrestrained individualism so often apparent in the development of a new country.

The desire for town-planning powers appears to be connected with the question of land settlement in British East Africa which is being worked out partly with the object of offering recognition to the soldiers who have fought in that country. The Government in British East Africa has prepared a scheme of land settlement with commendable promptitude. Two million acres of vacant land have been already surveyed, while another million acres can be utilized for settlement without encroaching on native reserves.

Commander Wedgwood, M.P., D.S.O., in the *Contemporary Review* for September, 1916, gives the following as the conditions of settlement:

'The offer will be accompanied by conditions which are admirably designed to ensure development and prevent the "stag" speculator from playing the middleman.

'The conditions of the 999-year lease are these:—

'(1) Within five years the settler must have put \$1,460 into his farm in the way of permanent improvements as well as about \$1 an acre (for every acre held above 300) in either permanent improvements or agricultural machinery or stock. Two-thirds of this expenditure must be incurred in the first three years.

'(2) A rent of three cents ($1\frac{1}{2}$ d.) an acre is charged, and the rent is revisable as follows: After thirty-three years, one per cent; after sixty-six years, two per cent; and, after ninety-nine years, three per cent on the unimproved value. At no subsequent revision shall the rent exceed three per cent on the unimproved value. For some seven years now all new land in British East Africa has been leased on these terms.

'So the average 1,000-acre farm will pay \$31.44 rent, and involve a further annual outlay of at least \$432.00 for five years, in house, or dip, or kraal, or fencing, or cleaning, or ploughing, or stock, etc. The lease, giving title to the land, can be issued within the month, on payment of small survey fees, and such a lease is available to raise money on, I write from memory, but I believe the settler's own time employed on the farm can be charged for in the improvement capital.'

The land in British East Africa is not yet fully surveyed and the development is in a sufficiently early stage as to permit the Government to avoid the evils that have occurred in connection with land development in the western hemisphere.

In new countries the planning of rural territory is as important as the planning of towns and, indeed, is an essential preliminary to proper town planning. The planning of rural districts is simpler in detail but has to deal with much greater areas. A rural plan must be based on a proper topographical survey and a classification map of the lands, showing the best uses to which the lands can be put and the proper sizes of farms or areas for these uses. The geometrical plan of the western countries has only been satisfactory from the point of view of getting accurate measurement. It has to be supplemented by a topographical classification plan as a basis for successful land settlement.

The British Town Planning Act is useful as a framework on which to build up proper regional and town planning legislation for new countries, but it should be greatly widened in scope to deal with the special rural and urban conditions of the large territories of the overseas dominions.

PLANNING THE GREATER HALIFAX

THE work of planning the devastated area in Halifax and the extensive areas of unbuilt-upon land within and surrounding the city has been proceeding for the past six months. In regard to the latter certain preparatory work was done before the disaster, but the urgency of proceeding with the work of reconstruction has had the effect of stimulating activity. Good progress has been made in fixing of the boundaries of the areas, surveying lines and fixing grades for main arterial thoroughfares, determining building lines, selecting portions suitable for residential and industrial development, and carrying out the preliminary procedure under the Nova Scotia Act. It is too early to say much of a definite character with regard to the details of the scheme, but some of the tentative proposals may be described.

The devastated area—that is, the area more or less completely destroyed by the explosion—comprises 325 acres. This area, shown on key map, is being dealt with by the Halifax Relief Commission, under the statutory provisions included in the Halifax Relief Act. The remaining area, as indicated on key map, is included in the scheme proposed to be prepared by the Town Planning Board of the city. The Halifax County Council is preparing four schemes, as shown on key map, and numbered 1 to 4. The areas of the six schemes are as follows:—

Map A—Devastated area.....	325
General city area.....	2,960
(1) County area, west of city.....	5,508
(2) “ “ east of Halifax harbour.....	4,430
(3) “ “ east of Halifax harbour.....	3,800
(4) “ “ west of Halifax harbour.....	4,400
	<hr/>
	21,423

The town of Dartmouth has not yet decided to prepare a scheme but, in order to complete the proper development of the east shore of the harbour, it will be desirable to have a plan prepared for the area of that town. The advantages to be gained by the preparation of a scheme are so great that Dartmouth will certainly eventually come into line.

Nothing will be included in these schemes that is not for some useful purpose connected with the economic development of the land or for protecting the health and well-being of the inhabitants. It happens, as is usual, that what is most useful, convenient and healthy is also best from the standpoint of appearance and amenity, but no aesthetic object is being sought for its own sake. This is not a time, nor are the conditions in Halifax such that the occasion is opportune, for spending money for purely ornamental purposes. At the same time, full regard is being paid to the practical advantages of scientific methods of planning and to the commercial value of those elements of beauty and proportion in design that can be obtained at reasonable cost. The two chief enemies of proper planning are the self-styled ‘practical’ man, without scientific knowledge or imagination, who has been running things so badly in the past, and the other is the unbalanced enthusiast, who paints beautiful pictures without considering how they can be carried into effect.

The necessity of preparing schemes that are practical, both from a financial and from an engineering point of view, is not solely due to the need for economy. One must be practical in method to get a thing done at all, and it is waste of time to set up idealistic utopias of what we would like to do but cannot. The Halifax schemes will be prepared on



lines that can be carried out and enforced, however far short they may be of the ideal one would like to attain.

The following are among the matters that will be dealt with in the provisions of each draft scheme, which will be in the form of a local Act of Parliament.

PROVISIONS OF SCHEMES

1. Providing for submission and approval of future plans of subdivisions to secure conformity with general plan of main thoroughfares and principles of development laid down in the scheme.
2. Fixing (a) varied width of streets to suit traffic requirements, and height, character and density of buildings; and (b) height, character and density of buildings to suit width of streets.
3. Regulating methods of financing street and sewer construction to secure equitable apportionment of cost between owners and public body according to benefit received.
4. Providing for construction of main trunk streets on sites determined in scheme.
5. Widening of streets, modification of sub-divisions already made, adjustment of boundaries of estates, and diversion of highways.

6. Fixing of open spaces, building lines suitable for residences, business premises, etc., and proportion of lots to be built upon for different purposes.

7. Prohibition of bill-boards, limitation of number of dwelling houses to acre and obstruction of watercourses.

8. Regulations regarding appropriation of lands, inspection, compensation and betterment, agreements, penalties, appeals, suspension of by-laws, etc.

PLANS

Accompanying the schemes will be maps showing, *inter alia*, the following:

1. Areas restricted for different purposes (*i.e.*, residences, factories, stores, etc.)

2. Position of main trunk streets to form chief lines of communication. (Only main arteries will be included on the plan. The details of development of intervening areas will not be fixed by the scheme, but merely regulated under the provisions of the scheme. This is necessary to secure elasticity and allow the scheme to be adaptable to reasonable modification to suit any future change in conditions that may arise.)

3. Widening, modifications and diversions of streets.

4. Areas restricted as to density of building on land units determined in scheme.

5. Open spaces settled by agreement or expropriated.

6. Building lines so far as needed to be fixed on the map.

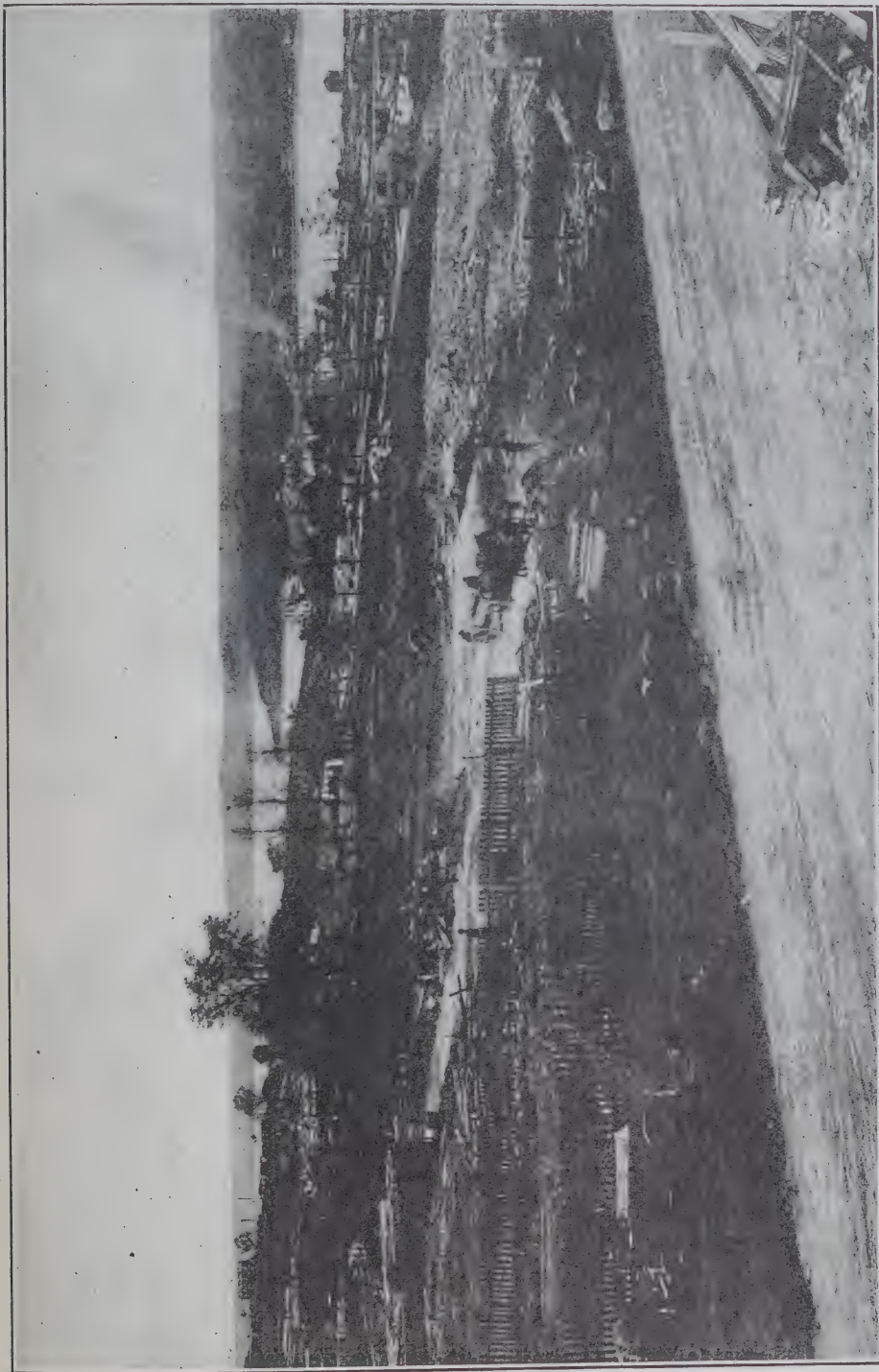
The complicated legal difficulties involved in carrying out a scheme dealing with the above matters in such a way as to secure real public advantage without much cost to the municipality and without loss to the owners of land, will be appreciated by most people. It is because of these difficulties a town planning scheme requires a considerable period of time for preparation. When prepared it is much more than worth the trouble, but its value has a definite relation to the time and patience exercised in preparing it.

STREET PLAN OF DEVASTATED AREA

One of the simpler and more interesting aspects of a town planning scheme is often regarded as the whole of a scheme, namely, the plan of the lay-out of the streets. Plan 'A' shows the tentative street scheme prepared for the devastated area. The original lay-out was on the usual rectangular method—wasteful and inconvenient to a degree.

The maximum grades found on the nine principal east-and-west streets were 8, 10, 11, 12, 13, 14, 15, 18 and 20 per cent, respectively.

Apart from the inaccessibility of the land owing to steep grades of the east-and-west streets, many lots were rendered useless for building by the straight north-and-south streets cutting across the steep grades at right angles. In re-planning the area regard had to be given to the existing streets, sewers, etc., and no radical change could be made in the rectangular plan without scrapping a great deal of expensive local improvements. It would have been a great advantage if the whole area had been expropriated and re-planned, but the initial cost would have been too heavy, having regard to the funds available for all needed purposes. Without interfering unduly with the existing street system, two new diagonals were laid out following lines which permitted easy grades and converging on a central square round which it is proposed to erect some of the principal public buildings. One of these diagonals will be used for a street railway connection between the low level



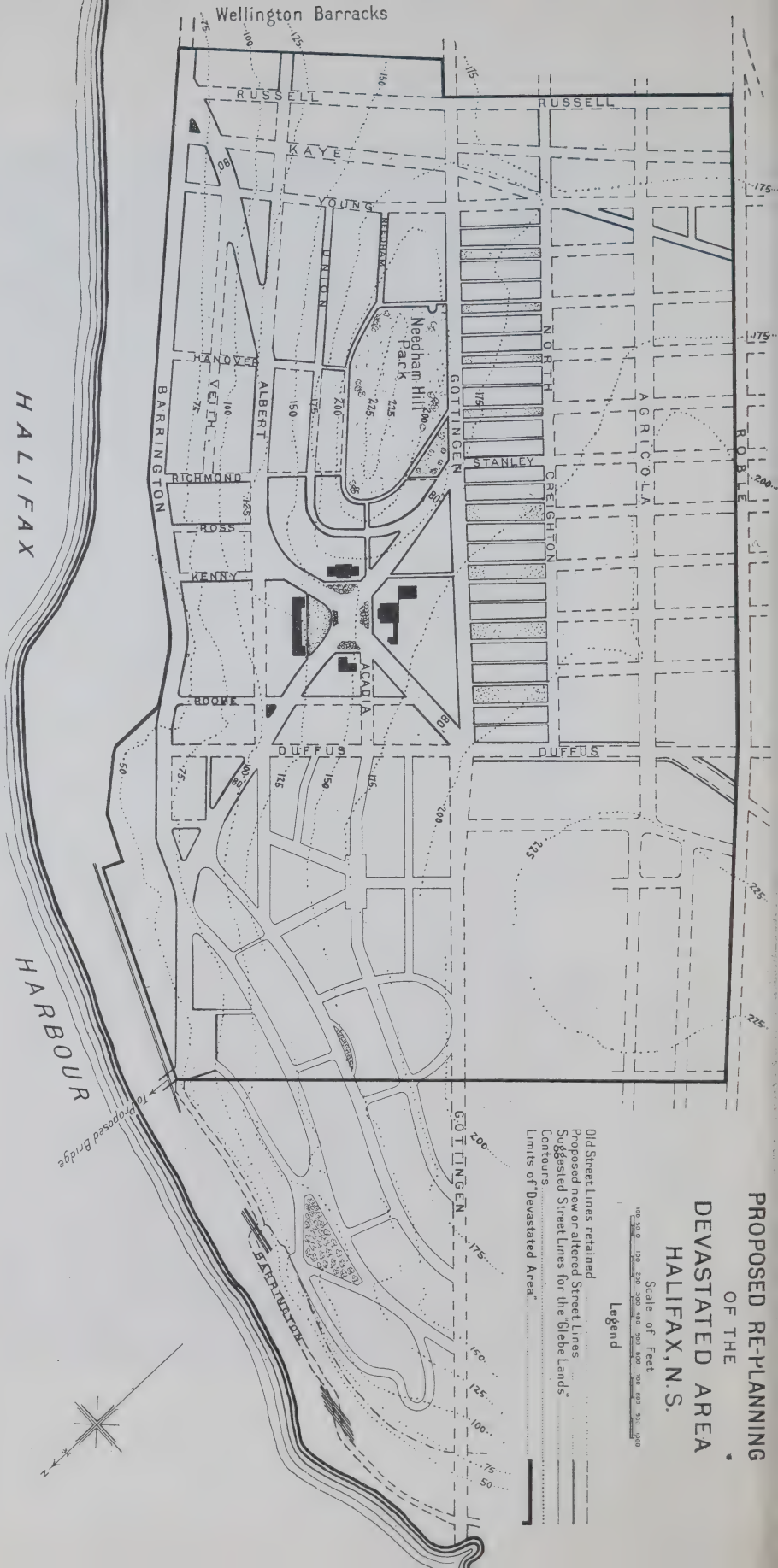
HALIFAX—DEVASTATED AREA, LOOKING TOWARDS THE UPPER REACHES OF THE HARBOUR

In the foreground is the site of the central square indicated on the plan.

PROPOSED RE-PLANNING OF THE DEVASTATED AREA HALIFAX, N.S.

Scale of Feet
0 100 200 300 400 500 600 700 800 900 1000

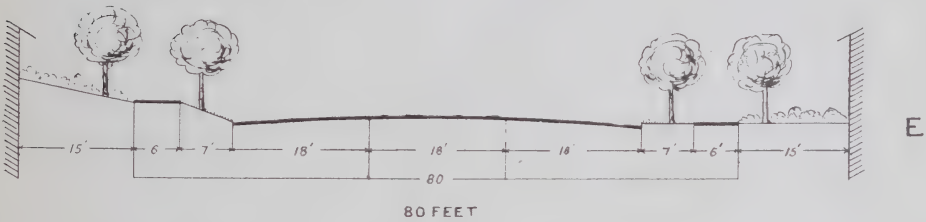
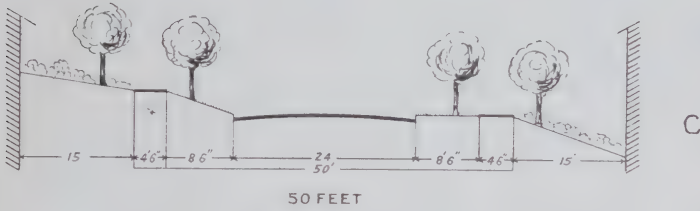
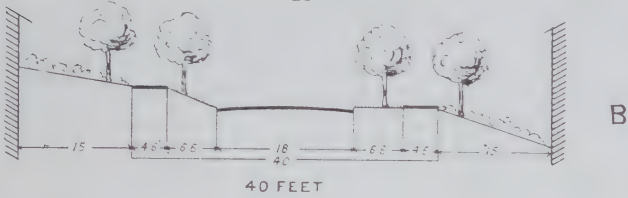
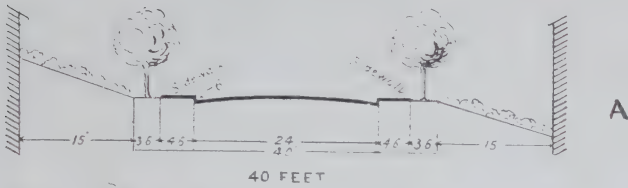
- Legend
- Old Street Lines retained
 - Proposed new or altered Street Lines
 - Suggested Street Lines for the "Glebe Lands"
 - Contours
 - Limits of Devastated Area



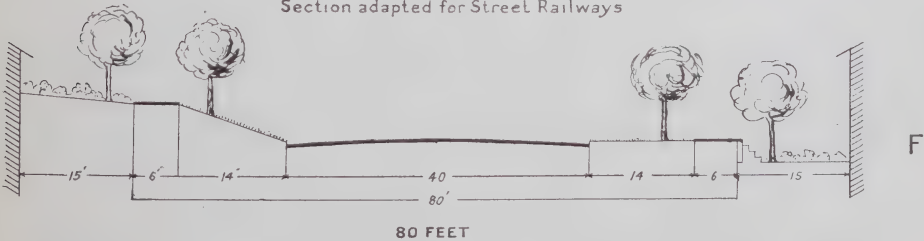
Plan A.—The main features of this tentative scheme for the replanning of the devastated area, as shown above, is the substitution of diagonal streets for the old rectangular layout. Two main diagonal thoroughfares are provided, 80 feet wide, of which the grades will generally be from 4 to 5.5 per cent, replacing grades of 8 to 20 in the former street arrangement. While 508,370 square feet of land is included in these new diagonal streets, there is a possible saving in streets, waste land, etc., of 433,140 square feet. Fort Needham, which is one of the highest points in the city, is to be developed into a park. At the northwest corner of the devastated area is shown the proposed location of a bridge across the narrows to Dartmouth.

PROPOSED CROSS SECTIONS
FOR HILLSIDE STREETS

Alternative Sections



Section adapted for Street Railways



NOTE.—The width of the pavement should be varied according to traffic requirements, and in many cases narrower pavements than those suggested will be adequate for many years. For instance, the width of pavement in F might be limited to 24 feet,—16 feet being temporarily placed in the grass margin until a wider pavement became necessary.

of Barrington street, which approximately follows a 50-foot contour line to the high level of Göttingen street, approximately 200 feet above O.D.

It is hoped to secure the widening of Barrington street to 80 feet and also some improvement in its alignment. The widening and diversion of Barrington street, and the construction of two 80-foot diagonals converging and intersecting at the square before they reach Göttingen street, will provide the devastated area with an excellent system of main arteries. The grades of the diagonals will be from 2 to 5 per cent. For one short length of the least important street it is 6.5. These grades replace those of 8 to 20 per cent already alluded to. The benefit to be derived from this improvement alone will be realized when it is pointed out that these east-and-west streets form the only direct means of access between Barrington street, running parallel with the busy north end of the harbour, and the important section of the city which is served by the main artery of Göttingen street and its tributaries.

The importance of the square as a distribution centre for traffic from all directions will be noted. Right-angled collision points with the main north-and-south arteries of Göttingen and Barrington streets are avoided.

Re-planning is always expensive and wasteful. Certain land will lose its building value because of the intersection of the lots by the new diagonal streets. This is the price we have to pay for want of planning in the first instance. But, on the whole, it is hardly conceivable that a more economical scheme could have been prepared. Although 508,370 square feet of land is included in the new 80-foot diagonals, central square, etc., there is a possible saving to be obtained of 433,140 square feet in streets, waste land, etc., recommended to be converted into building land. The balance is only 75,230 square feet.

There will have to be considerable excavation and filling in connection with the construction of the new streets, but care is being taken to equalize both, and to prevent unnecessary injury to the frontage land.

On the whole the cost of the scheme of re-development will be small compared, first, to the permanent advantages to be obtained, and, second, to the amount of the relief funds which might reasonably be apportioned for re-development.

Plans of proposed road sections for roads of different widths, and suitable both for level and hilly sites, have been prepared by the Town Planning Adviser of the Commission of Conservation. One set of these sections is shown on the accompanying diagram.

Unfortunately, the work of reconstruction is likely to be hampered by the high cost of building materials and the scarcity of labour, but these difficulties are being faced with determination to achieve the best possible results under the circumstances.

TOWN PLANNING IN RELATION TO PUBLIC SAFETY

DANGER to human life in city streets is not caused by the growth of the cities but by the haphazard and unregulated manner in which that growth takes place. Canadian cities are not congested, as a whole, but have badly congested spots; their streets are more than adequate in their total capacity for traffic circulation but they are not of adequate width in the right place. The fault lies in the lack of proper distribution and control of the density of building, on the one hand, and in the lack of scientific planning of the street system to secure the best means of circulation of the traffic, on the other hand.

In a properly planned city consideration has to be given not only to the needs of through circulation of traffic between its different parts

but also to the building density on the lots fronting on the streets, and both these things have to be regulated together or planning will prove ineffective as a means of preventing congestion. Many European cities with comparatively narrow streets have better and safer means of circulation for traffic than some Canadian cities, because of the lower density and lesser height of buildings. City planning must govern, among other things, the relation between the width of street and the height of buildings thereon, and the ideal to aim at, however difficult of attainment it may appear to be, is that the height of a building should correspond to the width between its front wall and the front wall of the building facing it. Until we can reach that seemingly difficult standard we shall not be able to obtain the space in our streets necessary to overcome congestion of traffic and its consequent dangers to life and loss of valuable time to its citizens.

THREE PROBLEMS OF CITY PLANNING

Three distinct but related problems, each having a bearing on public safety, have to be dealt with in our city planning schemes. There are:

1. *Regional Planning*—The problem of regulating new development in open or partially built-upon lands within and surrounding the city, including the control of all new forms of growth and the planning of a comprehensive arterial highway system for the purpose of securing adequate means of access and egress for traffic to and from the city and the surrounding country.

2. *City re-planning*—The problem of re-planning areas already built upon within the city, where changes in the character of buildings or in the use to which they are put, are taking, or are likely to take, place, including adjustment, as far as practicable, of this change of character to the existing street system.

3. *Reconstruction*—The problem of remodelling the street system to suit the existing building densities and traffic where these have already become congested and where buildings are permanent in character or unlikely to be reconstructed in the near future.

THE REGIONAL PLANNING OF OPEN OR PARTIALLY DEVELOPED LANDS

The regional planning of open or partially developed lands is easiest and least expensive to deal with. It is in connection with this problem that consideration has to be given to the arterial highway system as a whole. A scheme relating to such lands can prevent what is so difficult and expensive to cure in more central areas that are already developed. A city can prepare a plan for such lands by co-operation with the owners of real estate, and—subject to having adequate statutory powers—at a cost of a few dollars per acre, whereas the widening of a street in the central area of a city may cost many millions of dollars per mile. There is, however, less inducement to the citizens to prepare a plan for the suburban lands, because most of the benefit of such a plan will accrue to posterity and not to the generation doing the work. But, having regard to past experience of the cost of removing evils of congestion already created, it is the simple duty of patriotic citizens to prevent the recurrence and perpetuation of these evils in the future, even if they only gain a small share of the benefit themselves.

The improvement of the outer extremities of the street system of a city should, if properly planned, lessen the congestion in the heart of the city, and thereby reduce the dangers to public safety. The improvement should be made in respect to both the radiating routes and the circumferential or circular routes connecting the radial lines. The planning of wide radial arteries of communication round the city should

be carried out so as to attract traffic along the route leading most directly to its destination, and so as to encourage the widest possible distribution from the centre outwards. Good circular-connecting highways are equally as important as radial highways to distribute incoming traffic before it reaches, instead of at, the centre. When the main radial and circular system of highways is planned it becomes essential to have good construction of the roads included in this system. Congestion is often due to the fact that too few of our arterial roads have good surfaces, causing undue concentration on the well-constructed roads.

While all this seems to be evident, we are giving less attention to this problem than to that of removing evils in the centre itself. People are prone to confine attention to the removal of the glaring effects in congested areas instead of at the same time dealing with the less evident causes at the city extremities, which latter form the source of much of the congestion. To deal adequately with this problem of regional planning of the arterial road systems of cities requires the preparation of comprehensive surveys and plans of large areas.

The problem of regulating suburban growth is becoming of increasing importance, as a result of the industrial penetration of the rural district round large cities, which causes the creation of satellite towns outside their boundaries, and because of the increasing tendency to use the commercial automobile as a means of transport for industrial purposes. Taking the long view of the question of city planning in relation to public safety, the most important, if not the most urgent, of our problems is the preparation of comprehensive schemes for large regions, embracing the large city, its adjacent satellite towns, and the whole of the intervening lands that make up the metropolitan area.

RE-PLANNING OF AREAS LIKELY TO UNDERGO CHANGE IN BUILDING CHARACTER

In addition to the new growth in the suburban areas of cities, there is another form of growth in the central areas that can be regulated by building codes and re-adjustment of the street system, without resorting to the expensive process of re-construction schemes, alluded to later, which are rendered necessary where buildings are permanent. The term re-construction is here used as relating to schemes that involve the compulsory acquisition and demolition of buildings and not to voluntary re-construction or re-planning, which can be dealt with by regulation under re-planning schemes.

Land fronting on streets in central areas is usually occupied by two classes of buildings, one, more or less of a permanent character, and representing the full economic use of the land for many years to come, and the other more or less of a temporary character and representing a very inadequate economic use of the land. In some streets there are examples of the former in a modern fireproof office building side by side with an example of the latter in a two or three-storey frame building that has a rental value insufficient to pay more than the taxes on the value of the site.

The second class comprises what are virtually temporary structures, and the land they occupy is likely to be re-developed and can therefore be dealt with by preventive measures, since these measures can be taken to regulate changes in development as well as new development. Many cities have 'blighted' districts and streets, and also large areas where buildings are only fulfilling a temporary purpose during a period of transition. Residential districts are constantly changing into business districts, or one class of residence is giving way to another. In areas where these obsolete or temporary buildings are situated plans should be prepared to determine the street lines in relation to the building density

and traffic requirements. A city planning scheme should take into consideration the re-planning of such areas, with a view to securing the width of street and density and height of the new buildings to be erected, so as to secure, *inter alia*, the safety of the public. Areas occupied by obsolete structures can be easily dealt with as compared with areas occupied by more permanent buildings for purposes of fixing zones in which the future use and character of building can be regulated according to prescribed standards.

In connection with such re-planning schemes we have to deal with an attitude of the average legislator and the owner of property which has hitherto created a difficulty in carrying out these schemes at reasonable cost. This attitude takes the form of over-estimating the value of obsolete or badly depreciated buildings, and the unwillingness to allow the value of the appreciation to be set off against the value of depreciation caused by public improvements. Buildings should be depreciated on the books of the owners in the same way as the machinery of manufacturers. We should 'scrap' old buildings more rapidly than we do, and our building codes should encourage this process by enforcing higher standards for health and safety and enforcing the demolition of decayed structures that are a menace to the safety of adjacent property. At Galveston, Texas, and Dayton, Ohio, and at Halifax, the enforced replacement of old structures and the re-planning of devastated areas have resulted in improvements that, to a large extent, have off-set the material losses incurred, and have given these cities an increased taxable value that has compensated them for large public expenditures. Much larger sums could be spent by cities than have hitherto been expended in re-planning schemes, but compensation to owners must be limited to the actual value of the injury caused. To arrive at this value the city should have power to deduct from the compensation to be paid for injury or for property acquired a reasonable amount for any benefit that may accrue to the property as a result of the improvement. This principle of setting off betterment against decrement has been recognised in the law of some countries, and it should be legalized in Canada, so as to encourage more enterprise in making public improvements. The difficulties in practical application are not insuperable, and until they are overcome we shall not be able to effect many much-needed improvements.

RE-CONSTRUCTION SCHEMES IN AREAS OCCUPIED BY PERMANENT BUILDINGS

The re-planning of streets where more or less permanent buildings are erected on their frontages is the most expensive and difficult of the problems to be dealt with by the city planner. In such cases the solution is in expropriation of expensive buildings for the purpose of widening the streets, or the construction of subways, at a cost that, in either case, is almost prohibitive. We have here to deal with structures that have a high revenue-producing value, and compensation must be ample to cover prospective as well as immediate injury. But, here, again, the amount of compensation to be paid should be discounted by the value of the appreciation given to the property. There are innumerable cases where the improved value given to private property by the carrying out of public works has been greater than the injury, and it hardly seems equitable that, in such cases, no allowance should be made for the betterment given. To enable us to get the improvements we require for public safety some modification is needed in the law dealing with this question of compensation.

Most of the city planning schemes that have been prepared in Canada and the United States have, in large part, been reconstruction schemes, and the fact that few of them have been carried out to any

large extent is due to the fear of incurring the cost of compensating private interests and to the fact that the cities have no power to collect a special assessment on property directly benefited.

The fixing of zones in which height, character, density and use of buildings, in areas occupied by permanent structures, has to be governed by existing conditions to such an extent that only very imperfect results are attainable. Even if certain things have been allowed in the past that are undesirable from the point of view of public safety and health, we can only, in a very limited degree, place restrictions on new buildings to improve established and customary standards previously sanctioned by law. In undeveloped areas, and in areas occupied for the greater part by temporary buildings, we can, however, establish new standards for new buildings, and these should conform to the requirements necessary for securing the safety and convenience of the citizens as a whole.

SOME OF THE OBJECTS TO BE SOUGHT IN SCHEMES

In planning, re-planning and re-constructing cities an effort should be made, as far as practicable, to carry out the following, among other, objects in regard to streets, buildings, and open spaces for recreation.

Streets—Heavy-traffic streets should be wide, and those which carry street railways should not be less than 100 feet in width. Directness of route should be sought for main highways, free from the right-angled turnings, abrupt endings, irregular crossings and collision points caused by rectangular planning. On hilly sites reasonable curves, with a clear vision of a hundred yards at all points, should be substituted for straight, steep grades. Sharp curves should be avoided, and those existing should be abolished. Bad grades should be avoided, particularly at intersections. More than four streets should not be made to converge at one point unless large traffic space is provided at the point of convergence. Frequently the rounding of sharp angular corners at street junctions will do more to relieve congestion than widening of the interior of the street.

The street railway systems of cities should be planned or re-planned with the object of securing general convenience, and not for the interest of a few property owners. New by-pass streets should be created, in many cases, in preference to widening the existing streets, so as to distribute traffic rather than concentrate it. Main radiating routes should be supplemented by wide circular routes at the inner and outer circumference of the city, so as to distribute the traffic before it reaches the centre.

In residential areas, narrow streets should be designed and restrictions made limiting the height of the residences to two or three storeys and preventing change in character of buildings. Narrow streets should be so planned as to discourage through traffic. The whole street system should be planned of various widths in relation to building use and density and prospective traffic requirements. Intersections should be planned to secure that all traffic may move either at right angles or in a gyratory form in a circle of ample radius (not less than 100 feet.)

Building set-back lines should be fixed on all streets, especially where streets of comparatively narrow width cross, so as to permit of a better view of the intersection and of all approaching vehicles.

Streets up to 50 feet in width should be constructed at the expense of the owners of the frontage land, on the following principles: When any land is sub-divided for building purposes the owners at the time of sub-division should be made to construct the street and sewer, as well as to grade the street, up to certain minimum standards, but not to include a finished surface. This is customary in many American cities and is the British practice in all cities. It secures good access to all buildings when erected, prevents the scattered development and long mileage of

vacant lots to be seen in many suburbs, which is a source of great expense to the city, and obviates the dangerous and unhealthy mud-ways that constitute a great part of our suburban thoroughfares. In proportion as we improve the construction of our secondary streets we shall lessen the concentration of traffic on the main thoroughfares. The foundation and a partial surface construction of the street having been made prior to, or simultaneously with, building, a finished surface should be provided by the city when a half or two-thirds of the street frontage is built upon, and this should be assessed against the lot-owners. When, for purposes of general traffic, streets have to be wider than 50 feet, the extra cost should be met by the city and be a charge on the inhabitants at large.

Buildings—The ideal to be aimed at in regard to height of buildings should be to limit the height to the width of the street in the front and to the width of the space between the rear walls of buildings. Only thus can we give effect to our measures to prevent congestion, and secure the benefit of street improvements. The amount of superficial area of a lot to be built upon should not exceed 75 per cent in business areas and 50 per cent in residential areas, except on corner lots.

These standards may seem to be so much in advance of present day practices as not likely to receive the sanction of public opinion, but the time is approaching when they will be adopted and enforced. Cities should be zoned for purposes of limiting heights and densities in different districts and prescribing manufacturing, business, residential and other uses of property—the street system having been simultaneously planned to suit these different uses. This has been done in New York and other cities, but the standards so far attainable are not yet adequate to reduce possible congestion. The spreading out of cities on a more even basis, less congested in some parts and less blighted or scattered in other parts, is not only essential to relieve congestion and secure safety, but is needed to secure a more equitable distribution of property values in the interest of owners.

In regard to most of the details regarding building regulation by city planning schemes no definite rules can be laid down. It is of the essence of city planning that consideration be given in schemes to the variety of local conditions and circumstances and that expert judgment should be used to deal with these instead of the present rule-of-thumb method. In connection with regulations to secure better safeguards for public safety, we have still much to learn and more encouragement should be given to scientific investigation into the whole subject. Past experience will not necessarily guide us as to what we should do in the future. City planning has to deal with growth, and growth means change. Our schemes will only be successful if they are sufficiently elastic to permit adjustment to new conditions as these occur. Thus every city should have a permanent organization to give undivided attention to the development of its plan as a means of securing, among other things, the safety of its citizens. Such an organization exists in several cities in the United States.

Open Spaces—Canadian cities are, generally speaking, adequately provided with open spaces for recreation, but in those rare instances where such spaces are in the right place and are properly distributed to be accessible to the population, it has been the result of accident and not of design. The reduction of street space in residential areas and the lessening of building density on lots should be made more practicable and beneficial if it is accompanied by the provision of playgrounds in every district. Such provision is necessary to lessen the usage of the street for purposes of play. Large parks are of great value to a city, but they do

not lessen the need for recreation spaces in close proximity to the homes of the people.

City planning schemes should not only have regard to the placing and designing of playgrounds and parks, but should lay down some principle under which the provision of a percentage of all land to be sub-divided in future should be set apart for recreation. In some provinces in Canada and in certain schemes in England it is provided that one-tenth of any area sub-divided for building purposes shall be left as a public open space. This is required in the same way as street space is required to be left free of buildings, as a condition on which land is sub-divided for building purposes. Land that is least adaptable for building is often best suited for playgrounds and the giving of such land to the public by the owner does not necessarily mean that he loses its value. The fact of its being given as an open space adds to the value of the surrounding land for building purposes, and makes it practicable to have less space devoted to streets. It is well known that one of the chief causes of loss of life on public streets is that many city children have no other place to play.

There are other problems connected with public safety incidental to the planning of streets and regulation of buildings that can only be touched upon in this article. The relation between the plan of the city and the plan of the interurban tramway tracks is an important problem. The proper development of interurban transportation helps to relieve congestion in the centre, but it adds new dangers to life because of the careless disposition of tracks and crossings. The city planner has to consider the desirability of separating the space used by these tracks on existing highways, how to avoid dangerous crossings, and how to plan routes on private rights-of-way to secure high speed. The mixture of fast-moving and slow-moving traffic in central areas is a cause of serious difficulty. This prevents free movement for fast traffic, and thereby is one of the chief causes of congestion and danger. It cannot be entirely obviated, but may be greatly lessened, by proper planning of the street system.

The whole question of reservation of rights-of-way for street cars and interurban tramways and separation of slow-moving and fast-moving traffic needs to be more carefully studied and investigated. Indeed, there is urgent need for continuous study and investigation of the whole problem by a permanent planning commission in every city.

—THOMAS ADAMS

CIVIC IMPROVEMENT, TOWN PLANNING AND HOUSING IN CANADA

Nova Scotia—Progress in town planning at Halifax is described in a special article on page 82. A paper on 'Community Development in Nova Scotia,' by Mr. Thomas Adams, was read at the annual meeting of the Union of Nova Scotia Municipalities, held at Liverpool on the 28th of August, by Mr. H. L. Seymour, Town Planning Assistant. A Civic Improvement Conference, representative of the three Maritime Provinces, is to be held in the coming spring.

New Brunswick—The St. John Town Planning scheme has now been printed, and is under final consideration by the local councils. A new Department of Public Health has been created in New Brunswick.

Prince Edward Island—The passing of the Planning and Development Act for the Island Province will shortly be followed by the appointment of three development commissioners. The first steps towards the preparation of a scheme of development for the new town of Borden have been taken.

Quebec—Satisfactory progress has been made with the administration of the new Department of Municipal Affairs, and one of the first benefits derived from the creation

of the Department has been that it has already led to a conference between the Deputy Minister of Municipal Affairs and representatives of Quebec municipalities. The plan of the new town of Kipawa has been completed and the first houses are in course of erection. The scheme will be described and illustrated in the next issue of CONSERVATION OF LIFE.

Ontario—The acuteness of the housing question in Canada has been reflected by the publicity given in the public press to the housing shortage in many cities, but Ontario is the only province in which definite action has been taken to deal with the matter. The Ontario Government, through the Premier, Sir William Hearst, has announced its intention to lend up to \$2,000,000 to municipalities for housing purposes at five per cent. Investigations into the housing problem are being made by the Ontario Housing Committee, which has been formed by the Government. A special report on this matter, which is likely to become of great importance in all parts of the Dominion, is in course of preparation and will be the subject of comment in the next issue of this bulletin. Satisfactory progress with housing is not likely to be made in Ontario until a department of the Provincial Government is formed to give exclusive attention to municipal administration and a Housing and Town Planning Act is passed. While the absence of measures to deal with these matters is to be deplored, the action of the Ontario Government in voting a large sum of money for housing purposes must be warmly approved by all interested in improving living conditions for the workers.

A Civic Improvement Conference for South-western Ontario will be held at Hamilton on November 18th. Another conference is proposed to be held at London in October. Work in connection with the Hamilton, Renfrew, Ojibway and other schemes is proceeding, but is being held up in some cases owing to want of proper legislation.

The Riordon Pulp and Paper Company has instructed Mr. H. B. Dunnington-Grubb to prepare a plan, in consultation with the Town Planning Adviser of the Commission of Conservation, for a new model village.

Manitoba—Comparatively little progress has been made in Manitoba in recent months, except in the direction of carrying on research work in connection with municipal finance. The formation of a branch of the Grain Growers Association, to deal with the transfer of farm property, is a welcome sign of the improvement which is being made in regard to the protection of prospective settlers on the land.

Saskatchewan—Procedure Regulations under the Planning and Rural Development Act of Saskatchewan are now being prepared. The Act came into force in July last. Swift Current is the first city that has indicated its intention to proceed with the preparation of a development scheme under the Act.

Alberta—Town planning schemes are being proposed for the four principal cities of Alberta—Edmonton, Calgary, Medicine Hat and Lethbridge. The first steps have been taken and the engineers of the four cities are preparing maps, in consultation with the Town Planning Adviser of the Commission of Conservation, showing the existing physical features and character of development in the city areas. These maps will be used as a basis for assessment and town planning purposes, and it is hoped, by means of the proposed schemes, to effect a change in the basis of taxation of real estate which will solve some difficult financial problems with which these new western cities are confronted.

British Columbia—Premier Oliver, of British Columbia, has indicated that it is the intention of his Government to give consideration to the introduction at an early date of an Act to establish a Department of Municipal Affairs and also of a Town Planning and Development Act. Drafts Acts are in course of preparation. At the annual meetings of the Union of British Columbia Municipalities, held at Penticton on September 18th and 19th, a paper was given by the Town Planning Adviser of the Commission of Conservation dealing with the advantages to be obtained as a result of town planning legislation.

On July 10th a joint conference of the Civic Improvement League of Canada with the Union of Canadian Municipalities was held at Victoria, B.C. Alderman Owen, chairman of the Vancouver Board of Health, presided, and the following resolutions were unanimously passed:

Resolution No. 1—Housing

Whereas, a serious situation exists in industrial centres in Canada because of the lack of adequate housing accommodation at reasonable rates, creating conditions that menace the industrial, social and political welfare of the whole country;

And whereas, it has been demonstrated that private initiative, operating through the law of supply and demand, has not met adequately the housing requirements of progressive communities;

And whereas, in all the principal countries of Europe, in Australia, and in Ontario, governmental responsibility for the improvement of housing has been recognized by legislation providing for the advance of the public credit in various forms and in varying degrees in furtherance of improved housing undertakings, and in the United States

the National Government has recently appropriated \$100,000,000 to provide for housing for shipyard workers and those engaged on war contracts;

And whereas, Great Britain, recognizing that adequate housing is essential to industrial efficiency, has spent since the war began large sums in providing the most approved housing for war workers, and as a part of its reconstruction programme after the war, has planned for the erection of at least 500,000 houses;

And whereas, we believe that adequate housing facilities are essential to industrial progress and national well-being;

Therefore, this conference submits that it is urgently incumbent upon our Municipal, Provincial and Dominion Governments to seriously consider the whole question of housing reform, in order that plans may be laid for the provision of adequate housing facilities, looking towards the increase of home ownership, and that measures be taken for the early realization of these plans. Furthermore, we beg respectfully to submit to the Dominion Government that immediate progress can be made by enlarging and emphasizing the housing and town planning work of the Dominion, and to the Provincial Government that arrangements should be made to consider ways and means with regard to the whole question of housing betterment.

Resolution No. 2—Town Planning, etc.

That this conference approves the general principle of each province having adequate powers to prepare comprehensive town planning schemes to regulate housing developments and to secure improved sanitary conditions, convenience for traffic and the economic use of land for all purposes, and submits to the Government of British Columbia the desirability of passing the necessary legislation for the purposes similar to the Acts in force in the other provinces, as adapted to local conditions.

Resolution No. 3—Formation of Local Leagues

That this meeting of members of the Civic Improvement League of Canada urge the citizens of the cities, towns and rural districts in British Columbia to organize local Civic Improvement Leagues throughout the province, for the purpose of stimulating greater public interest in municipal affairs and to promote future conferences to discuss how best to improve civic and social conditions.

Resolution No. 4—Investigation of Causes of High Mortality

That, in view of the urgent need for the conservation of all the resources of Canada, and particularly of the lives of its citizens;

That, inasmuch as this must be done not only through their action as individual citizens, but also through their several governments, federal, provincial and municipal, it is hereby

Resolved, that this conference urge that such Federal and Provincial assistance be given to municipalities in the investigation of those local conditions which may be the cause of high mortality in any community, in order to determine what measures are necessary for the removal of said conditions and the best means available to this end.

Resolution No. 5—Approval of Work of Commission of Conservation

Whereas, the Commission of Conservation of Canada has been largely responsible for the development of favourable public opinion on the perpetuation of forests, their safeguarding from fire and pests; of valuable information accumulated bearing on our enormous fire waste; the improvement of housing conditions in congested localities; the establishment of proper methods of general fire prevention; the economic development of municipalities and betterment of living and social conditions; the utility of systems of good roads; the conservation of the fisheries and the prevention of the alienation of water powers, land, minerals and other natural resources;

And whereas, the public opinion so created has become crystallized in the form of municipal regulations, Dominion and Provincial legislation having in view the eradication of existing evils;

And whereas there is still great necessity for the stimulation of public interest in best methods of conservation of resources;

Be it therefore resolved, that this conference record its continued interest in the work carried on by the Commission of Conservation and its approval of the efforts of the Commission to promote the development of the national resources on a basis which ensures continuous supplies and eliminates extravagance and waste.

"BIG cities merely happen. The world is getting into a way of questioning mere happenings that produce ill results, and of forethinking and planning on a scale and with a daring hitherto unknown. Time is coming when cities will conform to a plan as comprehensive and intelligent as the plan of a modern factory—to get light, ventilation, open spaces, and at the same time save haulage."—

SATURDAY EVENING POST, Sept. 14, 1918.

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CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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JANUARY, 1919

Commission of Conservation
Canada





Conservation of Life

Vol. V

OTTAWA, JANUARY, 1919.

No. 1

The opinions expressed and statistics quoted by the writers of articles and papers appearing in *Conservation of Life* are the opinions and statistics of the authors only.

FEDERAL AND PROVINCIAL HOUSING SCHEMES

FEDERAL LOAN OF \$25,000,000

THE offers of the Federal Government and of the Provincial Government of Ontario to lend money for erecting houses for the working classes in Canada open up an entirely new field for government activity. Notwithstanding that the offers are made primarily as a result of the conditions created by the war, and are therefore in a sense post-war measures, they are not without significance as a revelation of a new attitude of our governing authorities towards social questions. If the movement now inaugurated proves a success, it is difficult to see where it will end and what importance it will have in improving the housing conditions of the country.

There has been little criticism of the action of the governments and a great deal of favourable comment. This is also significant in view of the fact that the entrance of public enterprise into a field heretofore left entirely to private enterprise introduces the possibility of far-reaching changes in our economic and social conditions, which might be regarded with apprehension by those who believe in the virtues of free competition.

The object of the governments is to promote the erection of small dwellings to enable workingmen and returned soldiers to acquire their own homes at actual cost.

The Dominion Government has offered to lend \$25,000,000 at 5 per cent to the provinces. The administration of the fund will be in the hands of the provincial governments, most of which, it is hoped, will add a contribution of their own to the fund.

PROVINCIAL DISTRIBUTION

The \$25,000,000 will be divided among the provinces pro rata to the population. This means that the approximate ratio of distribution apparently will be as follows:—

Prince Edward Island.. . . .	\$ 326,000
Nova Scotia.. . . .	1,716,000
New Brunswick.. . . .	1,225,000
Quebec.. . . .	6,980,000
Ontario.. . . .	8,781,000
Manitoba.. . . .	1,586,000
Saskatchewan.. . . .	1,716,000
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By lending two million dollars, Ontario is providing nearly one-fourth additional to the federal amount, making the total about \$10,781,000. If each province could contribute on the basis of \$1 per head of population, as against about \$3.48 being provided by the Federal Government, the total sum available for the Dominion would be over \$32,000,000. Allowing for an average loan of \$3,200 per house, the number of houses which could be erected would be 10,000, occupied by 50,000 inhabitants. This will not solve the problem of shortage of houses but will be a substantial contribution to its solution.

PROBABLE BENEFITS OF LOAN

After all, the main purpose of the loan is to provide only the smallest houses for the wage-earners who require accommodation at a low price. If, by means of the loan, a large proportion of workmen's houses are erected, if the sites on which the houses are built are properly planned, and if the dwellings are grouped as part of a comprehensive scheme as an object lesson in proper and sanitary housing—this will have an intrinsic value far greater than is represented by the number of houses built.

The Garden City and Garden Suburb schemes of England do not house a large number of the population, but they have had a value as an example to those carrying out housing schemes all over the world. Probably the number of inhabitants in the garden cities and garden suburbs is less than will be provided for by the Canadian schemes, and yet they have beneficially affected the housing conditions of millions of people. Whether or not the same result will be achieved in Canada will depend, not on any increase of the amount of the loan, but on the skill and judgment shown in utilizing what has been appropriated.

The suggestion has been made that the actual money contribution of the government is a small one. This may be met by suggesting a comparison between the cost of money to a workingman under ordinary conditions and the cost under the government scheme. The advantage to the workingman is not to be measured, as some commentators have put it, at the 1 per cent which approximately represents the government loss of interest, but by 3 or 4 per cent which is the difference between the interest chargeable by the government and the interest which a workingman would have to pay to a private lender.

The annual repayments on a loan of \$3,000 at 5 per cent would be about \$20 a month, and on a loan at 8 per cent, \$25—\$45 per month—representing a saving in the former case of \$65 per annum. If a workingman went to a private source for his money, he would not get the whole value of his house advanced, and would have to pay perhaps 8 per cent on, say three-fourths as a maximum loan. The other fourth could not be borrowed at all, but, assuming that it could, it would be at a much higher rate of interest. Putting the case at its very worst, the government loan will save the workingman \$65 per year on a \$3,000 house, i.e., the difference between 8 and 5 per cent, over a period of 20 years. The saving would be equivalent to about 20 per cent on the total cost of a house, and will go a long way to counteract the present high cost of building.

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Among the few objections raised to the Federal and Provincial schemes is that the chief responsibility for administration of the actual building will fall on the municipalities. Had the governments assumed this responsibility themselves, the objection might have been that they

were interfering with the "home rule" of the municipalities. The governments would be criticized either way by those who do not want public enterprise applied to housing or who favour some scheme that is less injurious to speculation. Obviously, the governments are acting in accordance with sound principles in recognizing the municipalities as the proper authorities to control the administrative details of housing schemes.

In all countries where the state governments have endeavoured to assist in solving the housing problem, the chief difficulty has arisen from the lethargy of certain municipalities. It is stated that the representatives on municipal councils, being in power for a short term, are more influenced by the short view of keeping down the taxes than by helping to solve a social problem of a permanent character.

It is hoped and expected that the municipalities of Canada will approach the matter in a more progressive spirit than has been the case elsewhere. *The municipalities are chiefly responsible for the making of the good or bad housing conditions of our cities and towns.* Whether or not they accept the government loan they are likely to do something to deal with the housing situation, both by promoting new construction and raising standards of old construction, since that is the only way they can carry out their promised reconstruction policy.

PURCHASE OF LAND FOR HOUSING SCHEMES

One of the most important questions which will arise in connection with housing schemes is in regard to the purchase of land. Some simpler procedure should be introduced in the provinces to enable land to be acquired at a low price for erecting small houses. At present the workingman has too many "interests" against him in wanting a site at a reasonable cost for a home. The real estate operator wants his big profits out of the land; the city council wants its high assessment values of land in order to keep down the tax rate; the trust company wants its mortgage securities maintained; many manufacturers want fixed assessments and other advantages, which have to be largely paid for by their employees. Against such a combination it appears difficult to get land at a cheap rate for housing schemes for workingmen and returned soldiers, but it is a difficulty that must be overcome if any substantial progress is to be made with housing reform, and if strife and friction are to be averted in the future.

FEDERAL ADMINISTRATION OF LOAN

The following report of the Committee of the Privy Council, dated 12th December last, shows the steps which the Federal Government has taken to give effect to its housing policy, the key-note of which is full co-operation with the provinces through a Housing Committee of the Cabinet.

The Committee of the Privy Council have had before them a report, dated 10th December, 1918, from the Acting Prime Minister, stating that by Order of the Governor-General in Council, dated 3rd December, 1918, the Minister of Finance was authorized, upon request of the Government of any province of Canada, to make loans to such Government for the purpose of promoting the erection of dwelling houses of modern character to relieve congestion of population in the towns of their respective provinces, the aggregate of such advances to all the provinces, not to exceed \$25,000,000.

By the said Order in Council it is further provided that advances may be made as soon as a general scheme of housing shall have been agreed upon between the

Government of Canada and the Government of the province applying for a loan thereunder.

The Minister observes that, in view of the national importance of adequate and suitable housing accommodation, which affects vitally the health, morals, and general well-being of the entire community, it is desirable that the financial assistance thus provided should be utilized at the earliest possible date in the provision of the housing accommodation contemplated by the said Order in Council.

The Minister further observes that it is therefore desirable that a committee of the Cabinet should be appointed to be known as the Housing Committee, which shall be authorized to take up without delay with the several provinces of Canada the question of their need for additional housing accommodation and the housing programme they have in view in order to secure an early agreement with the said provinces under which the said moneys may be utilized for housing purposes.

The Minister therefore recommends:—

(1) That there be constituted a committee of the Privy Council known as the Housing Committee, consisting of the following members:—

Hon. Mr. Rowell, President of the Privy Council;

Hon. Mr. Robertson, Minister of Labour;

Hon. Mr. Maclean, Vice-Chairman of the Reconstruction and Development Committee of Canada;

Hon. Mr. Crerar, Minister of Agriculture.

The Honourable Mr. Rowell is to be chairman of the committee.

(2) That this committee formulate the general principles which should be followed in any housing schemes in order to secure the results aimed at by the said Order in Council.

(3) That the committee communicate with the Governments of the several provinces of Canada in reference to the matters above mentioned with a view to agreeing with the Governments of the said provinces respectively upon any such general schemes of housing, so that the moneys provided by the said Order in Council of December 3, 1918, may be applied for the purposes contemplated by the said Order.

(4) That the committee be authorized and empowered to do and perform all such further acts as may be necessary in order to carry out and give full effect to the said Order in Council of December 3, 1918.

The Minister further recommends that the said committee be authorized to secure the assistance and co-operation of Mr. Thomas Adams, the Town Planning Expert of the Commission of Conservation, and of any other person or persons specially qualified to advise or assist the said committee in carrying on its work.

The Minister further recommends that all expenditures incurred by the committee be charged to the war appropriation vote.

The committee concur in the foregoing recommendations, and submit the same or approval.

THE URGENCY OF THE HOUSING PROBLEM IN THE PROVINCE OF QUEBEC

PRESSING NEED OF TOWN PLANNING ACT

"HENRY VIVIAN, in a lecture given in Ottawa in 1910, stated that he had seen in Montreal, in Toronto and Winnipeg slum districts that were worse than those of London and Dublin. His concluding remark was that in most Canadian towns less science and forethought are given to the care of human beings than a modern farmer gives to the raising of his pigs.

"MADAME FIEDLER, who has visited every country in the world in her crusade against the white plague, gave us the reason for this disastrous con-

dition a few years ago. 'Never have I filled my lungs with purer air than here,' she said. 'You possess the ideal country for the maintenance of health and vigour; your air possesses the richest of all vital elements, but you lack organized effort to fight the dreaded malady and your hygienic conditions are lamentable.' "--L'Administration, Pointe-aux-Trembles, Dec. 1918.

THE factors that make up the housing problem in Quebec are not different from those in other populous provinces, but some of them present features of urgency that cannot be overlooked. Mr. John Callaghan, manager of the Marcil Trust Company, stated recently to the *Montreal Star* that "the demand for houses has been admittedly great for some time; is even greater now and is certain to be much greater still."

Figures compiled by the city statistician, Dr. M. O'B. Ward, show that the number of marriages contracted in Montreal city during the four years of the war reaches the astonishing total of 25,669.

Everybody is wondering, it is said, where the houses are to come from for these newly-married people. The answer given to the inquirer is: "It is a fact that there are no houses at all for these." "Furthermore," said Mr. Callaghan, "I understand that our soldiers have been



WHERE POTENTIAL CRIMINALS ARE GROWING UP

This map shows the parts of the city from which the boys and girls who come before the Juvenile Court are drawn. It will be noticed that St. Louis ward (part of the section marked on the map as Lafontaine ward) provides a majority of the cases. Housing conditions in that neighbourhood are extremely poor.

marrying abroad in surprising numbers, and many thousands of those who have escaped marriage overseas will promptly succumb thereto upon their return home. On a conservative estimate, it is my opinion that within the next two years the number of separate new homes to be provided will have reached the total of 50,000, and possibly several thousand more. Construction has practically ceased for five years and the questions of labour, materials, and finances must be answered promptly or house congestion in Montreal and on the Island will become a huge task to overcome. Provision must be made forthwith to house a population of approximately one-fifth of our pre-war population."

CONGESTION AND JUVENILE CRIME

Meanwhile a remarkably vivid and arresting account of juvenile crime in Montreal was published by the same journal on December 21, with the accompanying map, reproduced here by the courtesy of the *Montreal Star*.

The map shows, as no figures could, causal connection between congested housing conditions and juvenile morals and the data are drawn from the official report of the juvenile court.

The evidence shows 30 per cent more juvenile delinquents in the "red light" district than in any other area; and that, while Laurier ward has the highest number of cases out of the total, St. Louis ward, which contains the "district," and which is about half the size of the north end division, has only 17 fewer cases.

There were 1,248 sworn cases of juvenile crime during the year, and of these 84 per cent were boys and 16 per cent girls. The average ages of delinquents were from 10 to 16 years.

Judge Choquet, of the juvenile court, considers that the figures are ample proof of the demoralizing effect of congested and slum districts upon child life. It is pointed out that, while St. Louis ward, with its dives and saloons, has 95 cases, St. Lawrence ward adjoining, a district of clean middle-class dwellings, has about 16 cases.

One section of the report seems to indicate that where genuine human enthusiasm is applied to the problem of juvenile crime some, at least, of the evil effects are mitigated. Tribute to the splendid work of Capt. Fennell, of No. 7 Station, is paid, and to his work, it is stated, is largely due the fact that Griffintown district, popularly supposed to be "rowdy," compares favourably with other localities commonly known to be more law-abiding.

In St. Andrew, St. George, St. Lawrence and Notre Dame de Grace wards, where housing conditions are generally good, the cases of juvenile crime are generally few, while the more congested districts supply the majority of the figures.

GOOD HOUSING AT POINTE-AUX-TREMBLES

In one of the suburbs of Montreal, however, a housing scheme is in operation that is likely to be an object lesson to the whole of the province. Mention has been made more than once in Conservation of Life of the work of La Société des Logements Ouvriers at Pointe-aux-Trembles, which has made steady progress in spite of the difficulties created by war conditions. The houses are being erected in comparatively open country, yet in touch with the car lines. The land has been acquired at a cost of \$250 per lot, which works out at \$10 per foot of frontage. The society is operating under the Quebec Housing Act, which is similar to that of Ontario.

A writer in *L'Administration*, of Point-aux-Trembles, argues that it is the duty of the Federal Government to stimulate private enterprise of the right kind:—

"It is high time that our legislators intervened in favour of the victims of intense industrialism. We have not seen in our country up to the present those terrible struggles between capital and labour that have existed for a long time in Europe and the United States. But it would not be surprising to see an outburst of Bolshevism among our working population if our legislators do not hasten to assure the maximum of welfare to workingmen.

"For some months we have heard much of programmes of 'Reconstruction' adopted by different provinces and by the country as a whole. The finest programme will crumble like a house of cards if we do not without delay begin to solve the problem of housing. We cannot wait to encourage cheap housing till our soldiers return and immigration has added to our population."

The writer points out that industrial development depends, to a larger extent than is usually realized, on adequate housing, and that if manufacturers find out that workers can be comfortably housed at Pointe-aux-Trembles it will be the very best inducement to persuade them to install their works in that city.

BAD HOUSING AND TUBERCULOSIS

Turning his attention to general conditions in the province of Quebec, the writer presses most earnestly the urgency of the problem and quotes figures that must be disquieting to all who have the interest of the province at heart:—

"Basing our statements on the result of careful investigations of medical and social sciences we do not hesitate to say that the narrow, ill-ventilated, insanitary dwelling is responsible for more cases of the dreadful disease, tuberculosis, than any other cause. And this dreadful plague, it must be remembered, affects mostly adults between the ages of twenty and forty, the very time of life when they should be most useful to society.

"Vital statistics for the province of Quebec show that in 1915, 3,300 persons died of tuberculosis. Of this total 1,923 lived in the cities and 1,277 in the country districts. As we are well aware, the rural population exceeds by far the urban population. Tuberculosis is developed mostly by insanitary surroundings, and chief among these is the overcrowded, ill-ventilated dwelling, the hovel where half-a-dozen or more individuals live in dangerous promiscuity in narrow rooms, without a ray of sunshine in the day time and without ventilation at night."

The serious statement is made that, while in England cases of tuberculosis have been reduced during the last few years by 50 per cent by improved sanitary legislation and improved housing conditions, the number in Quebec has actually increased during the same period.

JUVENILE CRIME MAY BE PRÉVENTED

During the fifteen years that the English Garden City has been experimenting in model city life there has been no record of juvenile crime and the death rate has been less than half that in the large towns of the whole country. Of every 1,000 children born in England in 1912, 95 died, and this was the lowest infantile mortality rate on record. In the Garden City the rate was 50.6. If the rate, therefore, in the whole

country had been the same as at Letchworth nearly half the children who died might have survived.

The magnificent work of doctors and nurses during the war in saving the lives of our soldiers has rightly won the admiration of the whole civilized world. The conservation of life has ever had a first and strongest appeal to the sympathies of right-thinking men and women. Is it too much to expect that the educated conscience of the future will be more sensitive than in the past to the waste of life that is the inevitable entail of congested living?

THE IMPORTANCE OF TOWN PLANNING IN CONNECTION WITH HOUSING

In order that a constructive policy may be carried out in Quebec to deal with the housing problem, as in other provinces, it is essential that a Town Planning Act be passed. The cost of getting rid of the slums, once they have been created, is almost prohibitive. Those who are brought in contact with slum life seem impatient with any scheme to ameliorate them other than that of getting rid of them at whatever cost.

The housing problem, however, is too complex in character to be dealt with by a merely destructive programme, and a constructive policy must not only be carried out but must go beyond the mere rebuilding of the slum districts.

The planning of new territory so as to prevent the repetition of slums is, in some respects, a greater responsibility to the present generation than the getting rid of slums created by previous generations. We must raise the standard of housing in the slum districts, and one way to accomplish this is to prevent new slums growing up in our suburbs and to create a competition between the new home we build and the insanitary dwellings that are now established.

Among the matters which a Town Planning and Development Act would deal with are:

- (a) The density, height and character of buildings;
- (b) Building lines on street frontages and air space surrounding buildings;
- (c) The relation between width of streets of varied width and the density and height of buildings fronting thereon;
- (d) The limitation of the number of dwellings on given areas of land to prevent overcrowding and injurious land speculation;
- (e) The zoning of cities so as to separate the factory, business, residential and agricultural areas in a comprehensive scheme and thereby promote the economic use of land;
- (f) Proper sanitation, convenience and amenity in connection with the grouping of dwellings;
- (g) The safeguarding of the municipality against claims for compensation in respect of alleged injuries to property due to proper and reasonable limitation of the use of land in the interests of health and safety;
- (h) The necessary powers to pull down buildings which contravene the law or are dangerous to health and safety, etc.

Mr. Noulan Cauchon, A.M.E.I.C., writing in a Quebec journal on town planning, describes it as follows:—

"Town planning or the science of the use and development of lands, is known in France under the name of *urbanism*, its object being to achieve the well-being of the dwellers in cities.

"Whilst this science also concerns itself with the lay-out of country highways and the disposition of agricultural lands, its application to the control of cities is vital. It is of elemental necessity that the means of communication be adequate for the requirements of traffic, otherwise congestion will arise. From this follows the necessity of having wide streets for connecting the important points in the most direct manner possible, and minor streets and lanes for domestic service. Streets for heavy traffic, if too narrow, entail congestion of the circulation, and residential streets that are too wide incur such a capital expense and cost of maintenance that those who live upon them are forced to be satisfied with more or less restricted quarters, in order to meet the assessment of taxes.

"Under these conditions it becomes impossible to fulfil the laws governing public hygiene and to lessen the infantile mortality which is so deplorable in the cities.

"The ideal aim is to establish such streets and obtain such subdivision of lands that the large arteries will naturally draw the heavy traffic to where real estate values can sustain the cost of maintenance. The outcome will be that residential streets, having little traffic to bear, can be built narrower and will entail less maintenance cost, thus preventing real estate values from increasing beyond reason. It is necessary that lots be restrained in value, that they be cheap, in order that the workman and his family may enjoy, at low cost, by paying a reasonable rent, his legitimate share of space, air, sunlight and comfort.

"Moreover, it would be necessary to enact a law, such as exists elsewhere, limiting the height of buildings in respect of the width of streets upon which they face, and restraining their area to 50 per cent of a residential lot and 75 per cent of a commercial property. This will guarantee against congestion of dwellings and of individuals and will provide for the free circulation of air and the life-giving action of the rays of the sun."

One of the great difficulties in dealing with sanitation and slum clearance is due to the absence of protection to the community from excessive claims for injury to property. A Town Planning Act would enable this matter to be dealt with on equitable lines. It would not only prevent new slums being created but would have the supreme value of showing the best practical methods of remedying bad conditions that are already established.

But before a Town Planning Act is likely to be passed in Quebec the Government will need to be convinced of the necessity of it by the pressure of public opinion. When British Columbia passes an act, as it is likely to do this year, Quebec will be the only province that has no legislation dealing with the subject; and, as in connection with kindred subjects it is one of the most advanced provinces in the Dominion, it will be a disappointment if it is behind in regard to Town Planning.

Some of the greatest town planners of the New World were Frenchmen, like L'Enfant, who designed Washington. Surely this fact should be an inspiration to Quebec to give leadership in this matter rather than to follow at a distance.

PLANNING AND BUILDING NEW TOWNS IN CANADA: KIPAWA

IN the last issue of "Conservation of Life" a description was given of the new town of Ojibway, which is being built by the United States Steel Corporation in south-western Ontario. It was pointed out that one of the results of the present system of allowing towns to grow without proper plan, without adequate engineering advice, and without sufficient regard for public health, was that manufacturers were moving out from existing centres to rural and semi-rural districts.

The decentralization of industries has ceased to be merely a transference of industries from the cities to their suburbs; in the case of large corporations, it is now resulting in the building of complete new towns. One of the striking features of this new development is that private enterprise is showing more regard for scientific development and public health than is shown in the average self-governed municipality. This does not necessarily mean that the private corporation has more public spirit than the public corporation. The object of the former is purely a business one. The private corporation which undertakes the building of new towns does it because it has become convinced that it pays to have efficient and healthy workers and that the only way in which that can be achieved is by proper planning and adequate measures to protect public health.

NAMES OF NEW TOWNS

It is interesting to note, incidentally, that some of the new towns being built in Canada are being given old Indian names. This is as it should be, for there are no more euphonious and interesting names than some of those which have been handed down to us by the original inhabitants of Canada.

The names which are imported from Europe and the extraordinary combinations which are sometimes imported from different languages have introduced some absurdities into the city terminology of Canada and the United States. An English or Indian prefix with a French "ville" or Grecian "opolis" appended is not a happy combination. With the fine and interesting Indian names which we have in Canada it is satisfactory to know that the new towns being built are being given appropriate designations.

What applies to the naming of towns is also of interest in connection with the naming of streets to which little attention is given.

THE TOWN OF KIPAWA

The new town of Kipawa originated somewhat in the same way as the new town of Ojibway. It is being established by a large industrial corporation, which has acquired sufficient land not only to erect their works, but to house their employees. The Riordon Pulp and Paper Company decided to develop a new mill for production of pulp, and apparently came to the conclusion that the most economical situation for such a mill was near the raw materials used in their industry. They selected the site of Kipawa, because of its proximity to the timber-limits and also because of the available water-powers derived from Kipawa lake. The interests of Mr. John Lumsden, owner of Lumsden's mills, and of other owners were purchased, and a compact area of about

10 square miles was brought under control for the purpose of erecting the mill and town. The consent and approval of the Quebec Government had to be obtained, and those who acted for the Government showed every desire to co-operate in helping the Riordon Company to build up a model community.

As will be seen from the accompanying plan, the site overlooks lake Timiskaming, which is part of the Ottawa river. The waters of Kipawa lake drain into lake Timiskaming by Gordon creek, which is seen between the town and the railway. The site of the mill is to the south of the town, on the opposite side of Gordon creek.

The first step taken by the Riordon Company in connection with the selection of the site for the town was to invite Mr. Thomas Adams, Town Planning Adviser of the Commission of Conservation, to advise as to the best situation. When the inspection of the area was made there were certain governing factors which made the choice very limited. The mill site had been selected and took up nearly all the level land that was available. On one side there was lake Timiskaming, and there were other physical features, such as the Gordon creek and two tracks of the Canadian Pacific Railway. At a point to the east of the area shown on the plan there was an existing mill and village known as Lumsdens Mills, and on this side also the whole of the level land was taken up by lumber yards.

The only land available for the town was hilly land to the north and south of the mill site overlooking the lake and river. Large parts of this land were covered with huge boulders and with timber or shrub of various sizes and densities. After careful inspection it was finally decided to build the town to the north of the mill site, on what appeared to be, from the view that was obtained from the mill site, a steep hill, which would be very difficult and expensive to develop. It was found, however, on investigation that there were considerable fairly level areas on the site, and that, in order to obtain easy grades and economical development of lots, all that was necessary was the preparation of a proper plan.

THE TOWN PLAN

The first step in preparing a town plan was to have a contour map of the site prepared, and Messrs. Ewing, Lovelace and Tremblay, of Montreal, were instructed to make a topographical survey. While this survey was being carried out by Mr. Lovelace, the site was visited by Mr. Adams and a preliminary sketch plan prepared. After sundry alternatives were considered, the main lines of the plan shown in the illustration were determined on and the surveyors were instructed to locate the roads on the ground. For this purpose paths had to be blazed through the forest and the plotting carried out under peculiar difficulties. Very creditable work was done, with the result that the whole of the lines of the plan were laid down on the ground through virgin forests. A large part of this work was carried out in the heart of winter.

Considerable care had to be taken to select sites for the churches and other institutions. One of the arrangements that had to be made was that of providing a site for the Catholic church in exchange for one which had to be abandoned where the mill is being erected, and a small cemetery had also to be changed in location. Other existing features which had an influence on the plan were the position of the station, which could not be moved very far from the present situation, and the

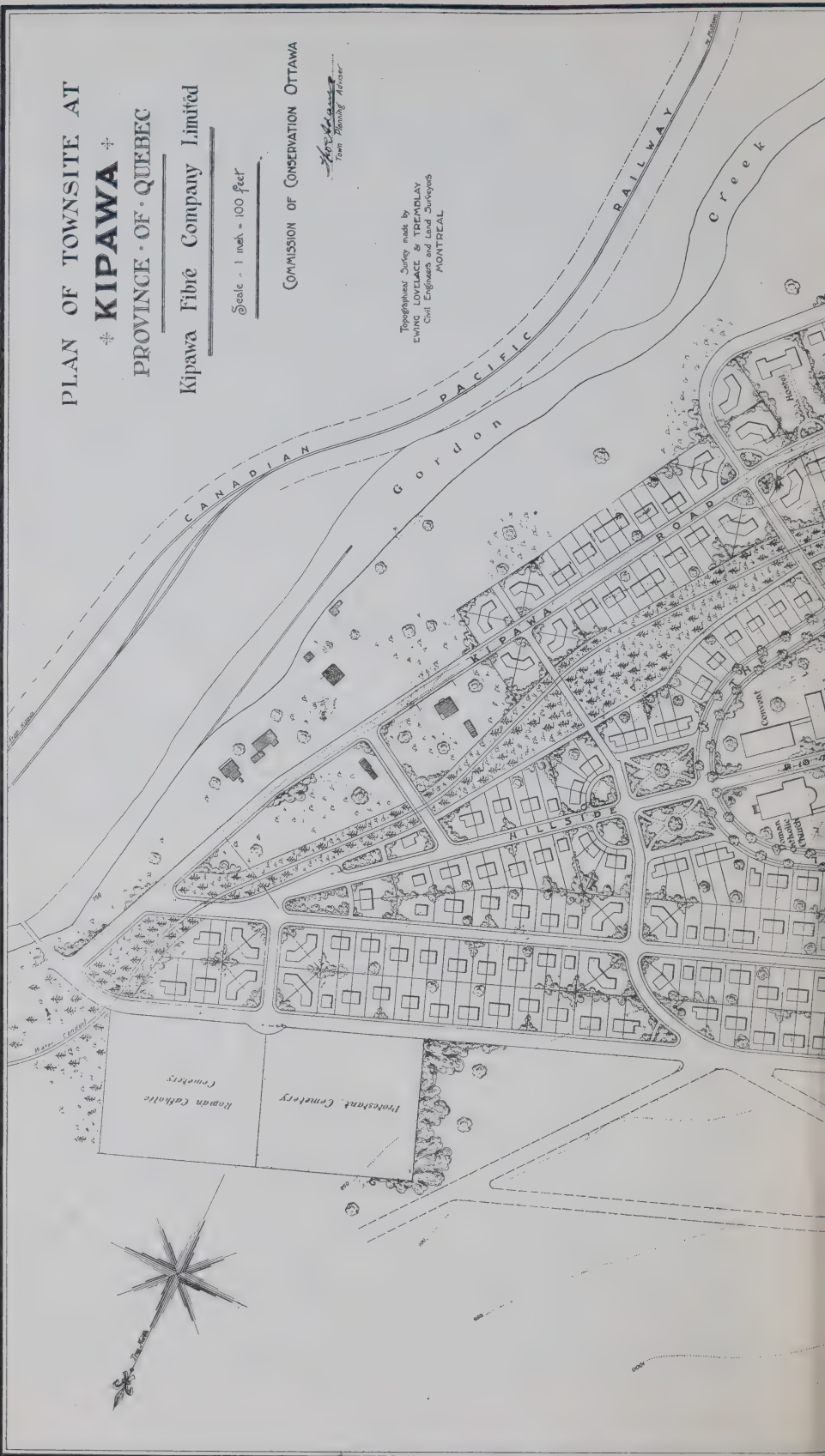
PLAN OF TOWNSITE AT
 ÷ **KIPAWA** ÷
 PROVINCE OF QUEBEC
 Kipawa Fibre Company Limited

Scale - 1 inch = 100 feet

COMMISSION OF CONSERVATION OTTAWA

For Planning
 Town Planning Advisor

Topographical Survey made by
 EWING LOVELACE & TREMOLAY
 CIVIL ENGINEERS AND SURVEYORS
 MONTREAL





L A K E T E M I S K A M I N G

existence of a good hotel overlooking the lake and situated in what can be made a beautiful park.

The above were existing features which could be taken into account from the beginning. A new factor, however, was introduced by reason of a plan to construct a water conduit, which is shown to intersect the whole town and for which provision had to be made in preparing a plan. As an indication of the difficulties which have to be overcome, even when a plan is being prepared, the location of this penstock was not determined until after the original plan was prepared, and readjustment had then to be made to fit in with it.

Having regard to the very steep contours of the land, this raised all sorts of difficulties. The only approaches between the small area of the town on the south of the conduit and the larger area on the north was to be obtained by bridges over the conduit which was above ground and eight feet in diameter. The grades of the streets, therefore, had



to be determined, not only with due regard to the contours of the land but also in relation to the artificial obstruction created by the conduit. It presented the kind of difficulties which are to be found when a canal and railway on an embankment are close together and parallel to each other.

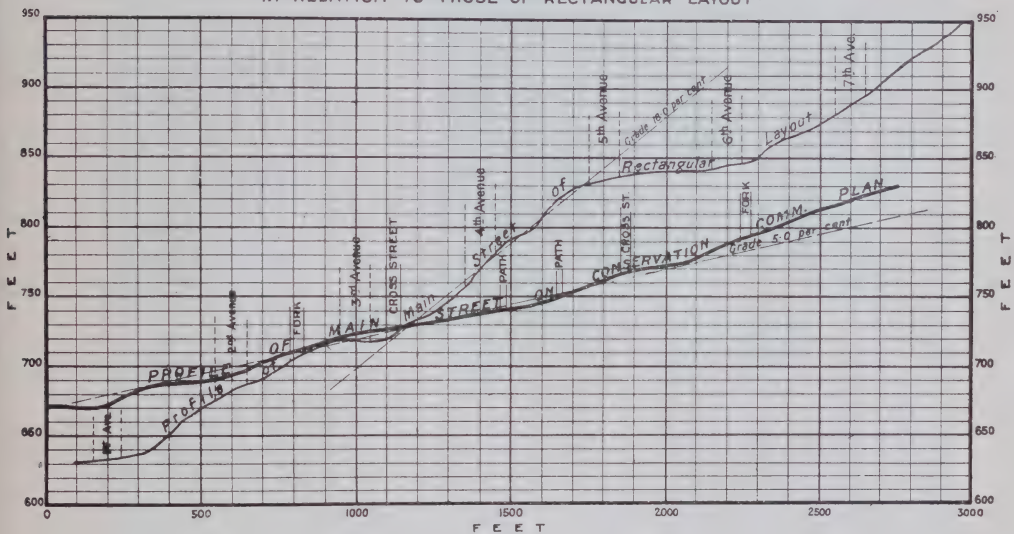
The plan as finally prepared is illustrated, and shows that the main approach from the station is obtained by two curved roads leading to the central square in different directions. A direct approach is impossible because of the character of the ground, except by means of a wide pathway which will be provided with stairs in the steepest portions.

The site of the central square is the only level area of any size suitable for the purpose after leaving the low level occupied by the village green. It will be seen that the contours rise from 650 to 1,000 feet, which is the datum level shown above the projected road indicated by dotted lines. From the central square there is a main avenue running parallel with the lake and following an easy grade.

The houses on the west of Ridge road stand at the top of a high cliff and overlook the lake. Care has been taken to give the houses a good aspect and ample air space and open surroundings to each house. The suggestion on the plan shows mostly semi-detached houses, but there are a few individual houses for the staff and some groups of three to six for the smallest types of houses.

The plan will be adhered to so far as the location of streets is concerned, but the architects will be permitted to use their discretion with regard to the grouping, sizes and location of the houses. In general, however, they will adhere to the building line indicated and to the position of the public buildings. Any variation will only be carried out in consultation with the Town Planner.

COMPARATIVE PROFILES SHOWING GRADIENTS OF MAIN STREET
OF CONSERVATION COMMISSION PLAN
IN RELATION TO THOSE OF RECTANGULAR LAYOUT



Notwithstanding the steepness of the ground, the grades of most of the streets are less than five per cent. Had the land been laid out in the usual rectangular form to secure conformity with the provincial survey, the grades in some cases would have amounted to 18 per cent. The accompanying profile illustrates the comparison between the grade of the main avenue in the plan of the townsite and the customary rectangular plan which is shown below on a smaller scale.

The plan having been prepared and consideration given to the levels for purposes of drainage and to the probable source and means of water supply, the next step taken was to consult Messrs. R. S. and W. S. Lea, Montreal, with regard to the preparation of a detailed plan of water supply and sewers and sewage disposal. It was found that no readjustment of the plan was necessary to enable an economical system to be designed. A portion of the site was selected as the cheapest and best to develop in the first instance. This comprises the area lying between Kipawa road and Gordon creek in the form of an oblong, in which the Hostel and the Institute are situated, together with the crescent on the north of Kipawa road.

Two plans of sections of the town have been prepared, one showing the complete development which is to be carried out in the first year and another the development to be carried out in the second stage after the first section is completed.

The designing of the houses has been entrusted to Messrs. Ross and Macdonald, of Montreal, and the first houses have been erected. It is expected that there will be a large number of houses erected during the coming year and that the mill will be completed and in operation.

A town manager and engineer has been appointed and a substantial beginning made in the development of what will become one of the most interesting of our Canadian towns.

KING'S WESTON GARDEN VILLAGE

From Garden Cities and Town Planning

THE great municipal docks at Avonmouth have given a new prosperity to Bristol, and Avonmouth itself has begun to grow rapidly.

In 1907, the owner of practically the whole of the land there, Mr. Napier Miles, consulted Mr. Thomas Adams in regard to the lay-out and development of his land, and certain plans were made and discussed in this magazine at the time. It is a coincidence that after the lapse of ten years the [Town Planning] Association should again be called in to advise, and on this occasion to prepare a definite scheme of development.

GREAT INDUSTRY CONSIDERS HOUSING

What is bound to be one of the most important industries at Avonmouth, and possibly one of the most important in the country, is that of the National Smelting Company, who are erecting at Avonmouth zinc-smelting and sulphuric acid plants. Although the bulk of the spelter in the world has come from British sources, in the past it has been almost entirely smelted in Germany, and we got from that country not only the zinc, but the sulphuric acid, which is the highly important by-product of the process. The National Smelting Company, however, have determined to alter this state of affairs, and, when erected, the works at Avonmouth will be by far the largest in the world.

At an early date some two thousand houses will be wanted for the workers. It is typical of the manner in which the whole enterprise is being conceived and carried out that one of the first matters to be dealt with, even before the factory premises were started, was the question of housing.

PUBLIC UTILITY SOCIETY

Avonmouth itself is built on alluvial soil. Almost the whole of the land is below high water mark and, consequently, without any other factor, is unsuitable for housing purposes. A great deal of building has gone on, however, and the Bristol Corporation have erected some unlovely houses there through their Docks Committee. At Shirehampton, close by, are some of the most striking recent examples of "how not to do it." A proposal to form a Public Utility Society was before the local Dockers' Union in 1916. The officials were face to face with an increasing shortage that threatened alarming proportions, and an attempt was made to start a society. The exigencies of war, however, prevented this being possible and the proposal lapsed.



MINISTRY OF MUNITIONS HOUSING SCHEME, SHIREHAMPTON, BRISTOL.
In course of construction, June, 1918. Bird's eye view from Penpole Point.

Early in 1917 the [Garden City] Association was called in by the company to advise generally as to the provision of houses. A careful survey was made of the neighbourhood, and eventually a scheme was submitted recommending that no houses be built upon the lower ground, that they be built reasonably far away from the works, and that the higher ground to the south-east of the works and about a mile away should be utilized for the purpose.

The establishment of a Public Utility Society was also advocated, and, cordial support having been promised, this is now in being, the



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In course of construction, June, 1918.

membership including those who had been responsible for the former proposal. As an example of what a Public Utility Society may be, it is worthy of notice. The chairman is the Lord Mayor of Bristol, Mr. Alderman Frank Sheppard, M.A., a workingman's representative and a former organizer of the boot and shoe trades operatives.

On the committee of management are represented labour in the person of Mr. Ernest Bevin, the organizer of the Dockers' Union; the city and industry of Bristol, by Mr. Sam King, wharfinger, and Mr. Henry Hosegood, miller; the landowner, Mr. Napier Miles; the University, Professor Leonard; and the University Settlement, Miss Hilda Cashmore. The company has but one representative upon the committee, despite the responsible financial position occupied, it having been decided, as a matter of policy, to give as complete as possible local control. As time goes on, representatives of the tenants as tenants will be added.

It is somewhat significant that the first cottage occupied on the estate was for the purpose of conducting social welfare work, and this is



MINISTRY OF MUNITIONS HOUSING SCHEME, LONDON ROAD, COVENTRY.
Cottage Shelters adopted for Girl's Residential Clubs, Seagrave Road.

being directed by the University Settlement. The plan (of the estate) shows to what a large extent the welfare principles have prevailed in the provision of the scheme.

The actual development, so far as it has gone, and the building of the cottages, has been in the hands of Mr. G. L. Pepler, for the Ministry of Munitions, who, in the face of almost insuperable difficulties of labour and materials, has achieved a very creditable success. The reproduction of photographs show what has been done.

There is a growing tendency among manufacturers to appreciate the extreme importance of the housing question, and the fact that they cannot afford to neglect it as they have done in the past; and the more progressive employers are realizing that besides this the part which they must play in housing provision must be carefully planned. Leaving the matter to the municipality means eliminating much of the social part of the programme outlined above, for there would be no semblance of co-operation, and an absence of the community spirit. The establishment of such a system as here suggested, giving scope for the best co-operation between all sections of the community, has such obvious advantages that it is greatly to be hoped that the system will find full scope in the after-war building programme.

It would do much to facilitate the growth of the co-operative method if powers were given to local authorities to assist and take part in the work of Public Utility Societies. The central committee has already made representations to the Government along these lines, and it is possible that something may result.

We print below the observations of the *Labour Woman*.

"The Labour party, at the Nottingham conference in January, 1918, declared that overcrowding in the large towns should be relieved by the establishment of new towns, and the reconstruction of the smaller existing towns on garden city principles, including the reservation of a stretch of country all around, the wide spacing out of houses and factories, the provision of gardens, allotments and small holdings and the installation of the most modern power-plants and labour-saving industrial facilities.

"It is not pleasant to live beside a factory which makes spelter. With the best will in the world zinc smelting and sulphuric acid plants do not smell nice, and in any case it is a bad plan to allow workers' houses to cluster around the walls of the factory yards. Recognizing this, the new town has been planned (by Mr. Ewart Culpin) about a mile or so from the works, and apart from the benefit to those who inhabit it, the great main avenue which will run its whole length will be of real value to all the surrounding district. As at present planned, it should house from 12,000 to 15,000 men, women and children, but there are opportunities for extending it in both directions.

"One most important matter is to be noted. There is to be no snobbery in this new town. No part is set aside for houses for the well-to-do, but all kinds are erected in all parts, not with a view to suiting the social standing, but simply with a view to providing a sufficient number of rooms for different sized homes. This is a very important feature of the town-planning scheme. It means that the social amenities provided in common shall be used in common. The poor will not be quartered in narrow small streets with a restricted outlook while the rich enjoy the woods and finer avenues."

THE HOUSING OF GOVERNMENT EMPLOYEES

IN the September number of *The Civilian*, the organ of the Civil Service of Canada, Mr. A. C. Campbell develops an interesting suggestion that the Dominion Government should build a garden suburb in Ottawa to house its employees, on the plan that other large employers of labour are adopting on this continent and in the old country.

He points out that in Ottawa there are not less than 6,000 employees of the Government and that the pressure on the housing accommodation of the city makes it exceedingly difficult for civil servants to house their families at a rate consistent with their incomes.

Mr. Campbell argues that such a project in the Capital city would be an excellent object lesson for the whole of the Dominion in "community development on community lines for the ordered benefit of all," and that by the conservation of land value increments it could easily be made financially successful. He quotes Dr. Murray Haig, who says of the case of Gary, Indiana: "A fair estimate of the increment of land value produced by community development, after deducting the value which is attributed to all expenditures for local improvements, etc., is from \$400 to \$500 per capita."

"My proposal is," says Mr. Campbell, "that the Dominion Government should afford to its Ottawa employees the credit necessary to build a garden suburb within reach of their work and with proper means of communication, and that also it should show its goodwill in the working out of details by allowing experts in its employ to take part in planning and building the new town. Of course, all credit and services should be paid for ultimately by the rents charged for houses, or, if houses are sold, by the amortization payments.

"The land built on should be owned by the Government, and a fair rental value should be charged for it regardless of the cost of improvements on any lot or in the town as a whole. The object should be, not to get back merely the money put in, but to take the whole rental value of the land from whatever cause arising. That is to say, the value of land in the new town should not be allowed to fall into private hands, not even the hands of the town itself nor of any of its organizations or people. That value should be recognized as belonging to the owner of the land, the Dominion Government. The town taxes, the rate contribution to be levied upon or taken from the land value by the town corporation, both its amount and its method, would be a matter for estimate and arrangement. Under proper management there would be an overplus of value, and that overplus should go to the landowner. The reasons for this are too involved for discussion here, but they arise out of the broad fact that this is a plan for the housing of those who work for the Government, and for nothing else."

Mr. Campbell shows, using the case of Letchworth, England, as an illustration, that the conservation of land values and public services, such as gas and water-works, for the benefit of the city which creates them and uses them has ceased to be a utopian project, and may henceforth be considered as a sound business undertaking.

THE CIVIC SPIRIT OF THE NEW CHAMBERS OF COMMERCE

THE London (Ont.) Board of Trade has been transformed into a new Chamber of Commerce. A programme of activities has been compiled, after an exhaustive study and survey of possibilities among the members, which is significant of the broadening and deepening of the sense of social responsibility among trade organizations, and which is one of the legacies of the war.

Boards of Trade in the past have been frankly utilitarian organizations and have given their chief attention to the extension of manufacture and trade. But sometime or other it had to be discovered that there was a casual relation between the extension of trade and the social welfare of the people who carried on the trade, and that for the development of trade the social development of the community was vitally essential.

The "practical" man has acted on the assumption that "civic spirit" was a thing to be proud of in a sentimental way but had no necessary connection with the extension of trade. It is gratifying to find in Chambers of Commerce, Rotary Clubs and other organizations that were founded chiefly for trade purposes a dynamic idealism that may prove much more practical than the discarded tenets of a narrower trade philosophy.

The programme of work of the London Chamber of Commerce is the result of a thought survey of the entire membership. It is an expression not only of a new ambition of a trade organization but of the most urgent needs of the whole city. It includes a new consideration of community development, municipal government and taxation, education and social welfare, highways and transportation, industrial development, retail and export trade, publicity and advertising, agricultural interests, improved housing, employment and welfare of soldiers, public discussion of reconstruction problems, industrial efficiency, welfare of workers—including fair wages, reasonable working hours and recreation facilities.

Special efforts will be made to make London a better city in which to live and work and play, by developing a community interest in health, sanitation, recreation, parks, streets and boulevards, public building, housing, city planning and all things that lead to the building up of a more healthful, convenient and beautiful city.

It is proposed to make a preliminary, social and economic survey of the city and then adopt a comprehensive city plan for the present and future development of London; to support a plan for a civic centre where the chief municipal and other buildings may be grouped; to consider a memorial building in memory of those who have given their lives in the great war; to assist the city authorities in safeguarding public health through the enforcement of necessary regulations; to provide more playgrounds for children and young people and to pay special attention to the need for parks and boulevards.

Among the suggestions is a Bureau of Information concerning vacant houses and property in the city and to bring pressure upon owners of vacant properties to put such properties into use. Special attention is to be given to the ownership of public utilities and improved conditions regarding railway stations and railway crossings. An endeavour is to be made to obtain the best form of municipal government for London and the establishment of a more equitable method of assessment on property values. There is to be an examination of city by-laws, with a view to bringing them up-to-date, and the educational work of

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the city will receive careful study. There is a suggestion that the city should buy an industrial area, make an industrial survey of London and encourage the manufacture of textiles, hosiery and other necessities, and establish "incubator buildings" for small industries.

These are some of the aims and hopes of the London Chamber of Commerce that may prove to be none the less practical because they have also the fragrance of the ideal. It is said that "a man's reach should exceed his grasp," and the London Chamber of Commerce does not hesitate to publish its conception of an ideal city. It is:

A city sanitary, convenient, substantial:

Where the houses of the rich and the poor are alike comfortable and beautiful.

Where the streets are clean and the sky line is clear as country air.

Where the architectural excellence of its buildings adds beauty and dignity to its streets.

Where parks and playgrounds are within reach of every child.

Where living is pleasant, toil honourable, and recreation plentiful.

Where capital is respected, but not worshipped.

Where commerce in goods is great, but no greater than the interchange of ideas.

Where industry thrives and brings prosperity alike to the employer and employed.

Where education and art have a place in every home.

Where worth and not wealth give standing to men.

Where the power of character lifts men to leadership.

Where interest in public affairs is a test of citizenship, and devotion to the public weal is a badge of honour.

Where government is always honest and efficient, and the principles of democracy find their fullest and truest expression.

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the city will receive careful study. There is a suggestion that the city should buy an industrial area, make an industrial survey of London and encourage the manufacture of textiles, hosiery and other necessities, and establish "incubator buildings" for small industries.

These are some of the aims and hopes of the London Chamber of Commerce that may prove to be none the less practical because they have also the fragrance of the ideal. It is said that "a man's reach should exceed his grasp," and the London Chamber of Commerce does not hesitate to publish its conception of an ideal city. It is:

A city sanitary, convenient, substantial:

Where the houses of the rich and the poor are alike comfortable and beautiful.

Where the streets are clean and the sky line is clear as country air.

Where the architectural excellence of its buildings adds beauty and dignity to its streets.

Where parks and playgrounds are within reach of every child.

Where living is pleasant, toil honourable, and recreation plentiful.

Where capital is respected, but not worshipped.

Where commerce in goods is great, but no greater than the interchange of ideas.

Where industry thrives and brings prosperity alike to the employer and employed.

Where education and art have a place in every home.

Where worth and not wealth give standing to men.

Where the power of character lifts men to leadership.

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*" For the structure that we raise,
Time is with materials filled;
Our to-days and yesterdays,
Are the blocks with which we build.*

*" Truly shape and fashion these,
Leave no yawning gaps between;
Think not because no man sees,
Such things will remain unseen.*

*" In the Elder days of art,
Builders wrought with greatest care
Each minute and unseen part;
For the Gods see everywhere.*

*" Let us do our work as well,
Both the unseen and the seen;
Make the house where God may dwell
Beautiful, entire and clean."*

—LONGFELLOW.

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CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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Conservation of Life

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The opinions expressed and statistics quoted by the writers of articles and papers appearing in *Conservation of Life* are the opinions and statistics of the authors only.

CANADA'S NEED

A land of almost limitless possibilities is of little potential worth unless its natural resources are developed.

As the wilderness may be made to blossom like the rose, so a country may become prosperous.

The one factor which spells development and prosperity is its people.

As its people are healthy, vigorous and happy, so in proportion is the national vitality enhanced. Upon the men and women of Canada rests the responsibility of making or inhibiting its future greatness.

The period of reconstruction is here. Each man and woman must realize now their duty as citizens, and, having realized, must strive to their utmost to co-operate each with his neighbour, in making Canada *the best* in this western hemisphere.

The need is for good, clean, healthy men and women; therefore, be healthy. Strive your utmost to maintain the best of health. Make your home, your workshop, your office and the children's school healthy, not forgetting that the unit of the town or city is the home; and, as we each make our home and its environment healthy, we are each doing our bit to improve the health of the community in which we live and the country generally.

The great advance cannot be made certain without the co-operation of individuals. Make Canada's success a sure thing by joining in the effort at once.

DEPARTMENT OF HEALTH FOR CANADA

FOR many years the trend of our activities along health lines has been for the governments and municipalities to relegate their responsibilities to various organizations, and merely assist them by charitable grants, thereby treating the most important features of health work as of an eleemosynary character.

In this matter these authorities have been wrong, both in principle and in action, for in no one particular can the health of a citizen of Canada be considered as an act of charity.

The nation and the body corporate have a duty to perform towards each citizen, be he rich or poor, in so far as his or her health is concerned, and they cannot avoid the responsibility by simply giving financial assistance to the many excellent associations and institutions which have sprung up over the length and breadth of the country and are now carried on by an army of devoted and philanthropic citizens. If government and municipal authorities had but risen to their high responsibilities in regard to health, in a manner equal to those organizations now voluntarily working in such spheres as child welfare, motherhood, mental defectives, and social welfare, they would simply have been discharging what is clearly their duty and for which they are responsible. They cannot avoid or shirk what are clearly health problems, in the manner they have in the past, and public opinion must be so directed to claim from the state and the municipal authorities public action in place of charitable assistance. We have to-day a better understanding of what the word *health* means, and, what is more, we realize, better than we ever did, that each citizen, even the poorest and the youngest amongst us, has the right to claim from these authorities that preservation of health should be the first concern of the state.

The individual has a right to demand that this protection shall extend from the pre-natal period, all through life, until death shall terminate the responsibilities of the citizen to meet the ever increasing demands of taxation placed upon him.

The unit of the state is the individual, the state is a community of people, and the better the standard of health the greater the potentialities of the state; therefore, it is in the highest interests of the body politic to discharge its duties in full. This does not imply a parental responsibility on the part of the state; rather, the laying down of principles as to how particular phases of the problems of health should scientifically, efficiently and economically be carried out, and at the same time co-ordinating all existing agencies having in view objects meant to attain the betterment of the physical and mental conditions of all.

To carry out and carry on this important, and perhaps the most difficult, task of reconstruction effectually, will require the cordial co-operation and support of the public. This we may confidently assert is available, in a measure and to a degree that in pre-war days was not possible.

This important factor being assured, the next step is action on the part of the federal authorities; for the questions involved know no provincial or municipal bounds—the problems are national, even international.

Such questions as concern health, and which at present come within the purview of the Federal authority, must be correlated and placed under a responsible minister of that government, and financial aid must be given for their development where it is found improvements

can be made and results obtained. Again, the scope of such a Department of Health must be extended along lines of activity at present only in part covered by societies or associations, more or less philanthropic, but whose work is naturally limited. The co-operation of the various provincial health authorities of Canada in carrying on work of national importance is essential; indeed, without it the work of a Federal department would in a measure be sterile of results. Provincial departments of health have been for years carrying on work in their respective provinces, and have been obtaining results in some directions, all of which have had a beneficial effect on the general health, but they, too, must be stimulated into greater activity upon the higher plane of health. What they have done in the prevention of communicable diseases, improvement of water supplies and cognate public health questions is but a good augury of what it is possible for them to do when directing and co-operating with the thousands of local boards of health scattered all over this wide Dominion.

These local boards of health are at the present time out of date, too antiquated to obtain results in what are the important questions of health, they hew too close to the line of laws and statutes, instead of being civic leaders in the crusade of health; indeed, the last decade has witnessed but little advancement in the line of public activity by most of the local health boards in the country, and as a result others are doing work in which they should have been the leaders and directors. They require to have new blood infused into them, good live wide-awake citizens, who realize the importance of health to their city and town, that infants should be looked after and school children inspected by trained medical men, and not left to a nurse's care alone, although the home nurse is a necessity in the community. These and many similar problems can and should be dealt with by a live board, and no longer left to the frowsy municipal fathers who are often obstructive where they should be progressive.

We have thus far referred to the official lines upon which health work is carried out. What a chapter could be written upon the good work of the various local, provincial and Dominion associations which have been formed for and are carrying on different phases of health work, and at the same time striving to form and mould public opinion as to the necessity for greater advances being made by governments to grapple with health problems. Their work is a testimony to the faithful men and women of Canada who have devoted their energies on behalf of their fellow citizens.

In conclusion, Canada has nothing to be ashamed of, although not much to vaunt itself on, in regard to what governments have done for the health of the people. Progress has been made, but what we must have now is a united, co-ordinated health movement—one calling for the best team work possible. This can only be accomplished by nationalizing the movement under a Federal Health Department, which will be live and progressive, anticipating, rather than relying on simply meeting present conditions, and, above all, leading and directing the people to a higher and therefore a better plane of citizenship and national efficiency.

A FIELD FOR MATERNITY AND BABY WELFARE WORK

WRITING, in 1906, Sir George Newman, the recently appointed principal medical officer of the Local Government Board of Great Britain, said, in reference to infant mortality: "Infants still die every year much as they did in former times."

The recent (48th) Annual Report of the Registrar-general of Ontario indicates that baby lives are being saved in that province, for, in 1908 the rate of infant deaths to births was 125 per 1,000 births; and, with the single exception of 1909, when the rate rose to 129, it has gradually fallen to 92 in 1917.

During the decade the rate in the rural municipalities shows a steady decline from 109 per 1,000 births in 1908 to 83 in 1917.

With the purpose of emphasizing the work to be done by health authorities in these rural municipalities, attention is directed to one outstanding portion of the province, namely, the counties of Prescott and Russell, which are situated in the extreme eastern portion of the province, the figures quoted being taken from the annual reports of the Registrar-general.

PRESCOTT AND RUSSELL

Deaths—1908–1917 (inclusive)—all causes and all ages, also infants:

Year.	All causes and ages.	Infants	Births
1908.....	739	313	1,881
1909.....	764	337	1,760
1910.....	692	317	1,842
1911.....	771	324	1,767
1912.....	613	219	1,659
1913.....	697	242	1,860
1914.....	699	223	1,715
1915.....	741	282	1,770
1916.....	754	240	1,692
1917.....	658	216	1,721
Totals.....	7,128	2,713	17,667

Summary for Decade—Births, 17,667. Infant deaths, 2,713, being an average of 153 deaths per 1,000 births, and 38 per cent of the total number of deaths at all ages for the same period.

To permit of comparison of the infant mortality in the counties of Prescott and Russell, the following tables "B," "C" and "D" have been compiled; they show the same total deaths of infants for the year 1917 in groups of counties, towns and cities, respectively, in the province.

TABLE A

	Estimated population	Births	Deaths	Rate per 1,000 births
Prescott and Russell.....	51,010	1,721	216	125

That the mortality is high in comparison with that of other counties in the province will be seen from the following group tables of eight counties, fourteen towns and eight cities in which the same number of deaths occurred:

TABLE B

Counties	Population	Births	Infant deaths
Dufferin.....	15,920	311	21
Elgin.....	29,610	753	29
Frontenac.....	23,440	989	27
Haldimand.....	21,110	411	31
Lennox and Addington.....	19,580	323	21
Peel.....	22,870	390	23
Perth.....	35,360	960	43
Prince Edward.....	16,330	319	21
Totals.....	184,220	4,456	216 48 per M

TABLE C

Towns	Population	Births	Deaths
Barrie.....	6,870	144	21
Collingwood.....	6,540	190	16
Cornwall.....	7,310	204	25
Ingersoll.....	5,360	141	6
Kenora.....	6,430	151	12
Lindsay.....	7,280	182	11
Orillia.....	9,340	286	11
Owen Sound.....	11,650	312	19
Parry Sound.....	6,290	203	20
Smiths Falls.....	6,500	176	22
Steelton.....	5,485	167	19
Thorold.....	4,550	94	10
Walkerville.....	5,270	132	7
Welland.....	8,200	224	17
Totals.....	97,075	2,606	216 82 per M

TABLE D

Cities	Population	Births	Deaths
Belleville.....	11,430	208	15
Chatham.....	14,350	267	38
Guelph.....	16,020	413	34
Kitchener.....	19,200	494	34
Niagara Falls.....	12,030	289	21
Stratford.....	15,450	335	26
Sarnia.....	12,960	271	21
St. Thomas.....	15,880	334	27
Totals.....	117,320	2,611	216 82 per M

The excessively high rate in Prescott and Russell is evidenced by comparison with the several groups, each with the same number of deaths as this county, *viz.*, 216. The eight counties, with a population of 184,000, show a death rate of only 48 per thousand births. The town group, with a total population of 97,000, shows a death rate of 82, and the city group of 117,000 population, has the same infant death rate, *viz.*, 82 per thousand births. This may be illustrated in another way: If the same rate, 125 per thousand, prevailing in Prescott and Russell had been shown by the county group the total number of deaths would

have been 557, instead of 216, or more than double; on the contrary, if the lower rate of 82 per thousand had been reported from Prescott and Russell, the county would have reported only 141 instead of 216 deaths.

An analysis of the causes of deaths of the 2,713 infants during this decade indicates that 1,388, or 51 per cent, were due to diseases of early infancy, congenital debility (?), icterus and sclerema; 516, or 19 per cent, to diseases of the digestive system; 209, or 7.7 per cent, to diseases of the respiratory system; 138, or 5 per cent, to diseases of a communicable character; the remaining 462 to different other causes.

The fact stands out prominently that over one-half the deaths were caused by pathological conditions, which always bulk largely as contributors to the deaths of infants; and in this respect there is little or no difference over any other part of the Empire. They may be classed under the head of "immaturity," which word means, in plain English, want of proper nourishment, in the first instance, to the mother during the pre-natal period; secondly, to the mother during the nursing period; and, thirdly, to the baby, either through defective breast-feeding or improper artificial feeding.

The question could be traversed much further, and it can be studied out with advantage, but our object has to be attained by first directing attention to the condition of a waste of infant life in one county; second, that the condition is due to causes some of which can be mitigated, and others can be stopped; thirdly, that there is a field as yet untouched for maternity and baby-saving work. In conclusion, we would urge on the local authorities, through their health boards, to get busy and adopt some scheme of district nursing, and then begin, in a systematic manner, the education of women in the duties of motherhood. Here is a field for service—who will fill it?

WOMEN AND THE SLUMS

IT is stated that one-half the grown-up women in England were wage-earners before the war, and earned from \$2 to \$4.50 per week in London. During the war the proportion of women wage-earners increased enormously, and the wages rose, for such employment as bus-conductors, to about \$15 a week.

In factories it is the women who suffer most from bad sanitation. The high death rate of slum children is due to the fact that so many women work in the factories, and undoubtedly one of the causes of the kind of discontent that is a social danger has been the effect of industrial work on women.

The combination of healthy physical conditions of country life with the healthy intellectual conditions of the town, as shown in Bournville and other garden suburbs, provides the solution for this problem.

Is it the fault of the poor themselves? In an analysis of 4,000 cases, made by Charles Booth, it was found that, of those who had become degenerate, 4 per cent were loafers, 14 per cent suffered from drink and thriftlessness, 27 per cent from illness and large families, and 55 per cent from questions of employment. We thus see that the matters over which the poor themselves have least control—illness and employment—are the chief causes of their degrading poverty.

The lowest class of the city poor, known as the moral defectives, are the direct cause of distress in only 18 per cent of the cases, and only 13 per cent of the cases of distress are due to drink and thriftlessness.

In the lowest parts of Whitechapel, drink figured very slightly, affecting only 4 per cent of the very poor and 1 per cent of the poor.

Investigation shows that city workers in receipt of good wages in England do not spend so much on drink as is commonly stated. Careful inquiry into the expenditure of 300 amalgamated engineers during two years yielded an average of 1s. 9d. spent weekly on drink. The late Canon Barnett said that, terrible as were the evils of drunkenness, impurity, thriftlessness and idleness, it was not possible to regard these as the main sources of poverty. These were rather the natural accessories of the industrial conditions due to the land system.

All the energy of the people living in slums is required to exist. You cannot civilize them until you open up some opportunity in their lives to show them the advantages of becoming civilized. We must begin with the improvement of their lower life first, by making their environment more wholesome.

Everything we do to improve the physical conditions will make it easier to improve the moral conditions, so long as, in both respects, we do not encroach on the freedom of the individual.

To attempt to teach thrift to people earning \$15 and \$20 a week, by inviting them to save up to acquire their own homes, is wasting time. Their wage at present only suffices to provide them with the necessities of life in food and clothing and rent for their inadequate shelter, and anything they save has to be saved out of these necessities. The education of these people is essential, but moral instruction and material growth must go hand in hand, and, in the order of time, material reform comes first. Otherwise the higher ends of humanity are unattainable.

What is the best way to give permanence to the present temperance movement? Surely it is in substituting some desire of a better kind for that which has been taken away. You cannot make men temperate by force or education, you must substitute some new craving, in the form of a higher standard of comfort and of healthy recreation; otherwise the time will come when there will be a reaction.

We hear much of strikes and discontent among men with regard to the conditions of labour and low purchasing power of wages. Sometimes this discontent is rooted in ignorance and is, therefore, a danger to society. At other times it is a healthy reaction against oppression on the part of others. If the women who live in slums and in insanitary homes anywhere were to strike for better homes no one could question the righteousness of their cause or the provocation which impelled them to do so. There is an old saying that the child is educated at the mother's knee, and that reveals the secret why so much of our population grows up mentally defective, unthrifty and lacking in resistance to immoral influences. We cannot teach these children to be clean, thrifty, industrious, steady, moral, intellectual and religious until we have first given them a better environment. We must gradually make our poorest population capable of insisting upon better conditions for a healthy physical life and of securing more time for recreation.

There is a great deal of talk about the advantages which will result to men from shorter hours of labour, but too little about the need for shortening the hours of the women who are slaving in the slums from 16 to 18 hours a day. It is they who need the shorter day, and, from the point of view of education and improved citizenship as a whole, we could afford to have men working even longer hours than at present if the women could have greatly reduced hours of labour. The statement is true, so far as the women are concerned especially, that a high moral and spiritual civilization can only be built on a sound physical condition.

There is also too much of the easy-going philosophy which ascribes the vices of the poor to their own innate defects.

One of the disconcerting features of our civilization, even in these new countries, is the slow progress we are making in removing the bad living conditions of the poor, in spite of our enormous progress in other directions.

In a healthy city the housing conditions should not be worse than in the country. In some respects there must be, in the city, a certain degree of crowding together, but this does not necessarily entail bad sanitation and overcrowding. On the other hand, the city provides us with more opportunities for independence than the old feudal village of Europe. It gives us scope for more freedom, better education, and a more intelligent life. These things have been sought by many workmen who have drifted from the country into the city, although they have been blamed for simply following the glare of the lights and the magnetism of the crowd. As Longfellow said, when he compared town and country life as a place for the scholar to live: "They do greatly err who say that the stars are all the poetry which the cities have. * * * The river of life that flows through streets tumultuous, bearing along so many gallant hearts; so many wrecks of humanity; the many homes and households, each a little world in itself, revolving around the fire-side as a central sun; all forms of human joy and suffering brought into that narrow compass; and to be in this and to be part of this; acting, thinking, rejoicing, sorrowing with his fellowmen." Such, says Longfellow, should be the poet's life, and such, indeed, is the chosen life of man.

"Back to the land" movements are apt to overlook this vital factor in human desire, and the general influence of education to promote concentration in cities.

During recent years we have realized how wrong and uneconomic it is to develop the city at the expense of the country, and have measured our neglect of the amenities and social facilities that ought to be made available in our rural organization. The way to build up the country, however, is not by subsidizing country life by artificial means at the expense of the city. The right way is to make the standard of the city life such that it will be too expensive for the loafer to live in and to make the standards of the country life attractive enough to cause the women and the young people to stay on the land.

The decay of Ireland during part of the 19th century, has, we think, been described very truthfully by Lecky, as due to the population being thrown "to an unhealthy extent for subsistence on the soil" and to there being too small a number of manufacturers. We must not try to destroy the manufacturing or the city part of the community as the means of providing a temporary palliative for the rural districts, but rather build up the best foundations for both. They are interdependent and necessary to each other.

One of the reasons why we fail in getting effective results from our measures of social reform is our lack of differentiation between curative measures and preventive measures. When dealing with a disease we have largely to ignore the amount of expenditure in relation to the effect produced, and sometimes have to acquiesce in merely palliative measures, having little permanent value. To deal with the slum means applying remedies for an established disease and paying a penalty for past neglect. It cannot be made an economic proposition. It would be a bad thing if it could, since that would give more justification for its being permitted to go on. The hideous wrong that it is doing to society consists, in part,

of the fact that it is almost prohibitive in cost to get rid of it. Faced with that factor we are doing little to prevent the creation of the slum in the future.

Yet, while the cost of removing the existing slum is almost beyond us, we can take preventive measures on sound business principles, and the extent to which we have carried out our responsibilities will eventually be changed, not by the extent we have removed the evils that have been handed down to us by our forefathers, but by the extent to which we have prevented their recurrence.

MORALS AND HEALTH

THE basis of citizenship is the individual, and the morals and the health are interdependent; therefore the closest co-operation should exist between the church on the one hand and the sanitarians on the other.

No social agencies offer a greater return for such co-operation—the one cannot accomplish its highest aims without the assistance of the other. The laws of hygiene are as divine as are those relating to our spiritual life and it is only by this co-operation the prophesy can become a reality, that “there shall be no more thence an infant of days, nor an old man that hath not fulfilled his days: for the child shall die an hundred years old” (Is. lxv, 20).

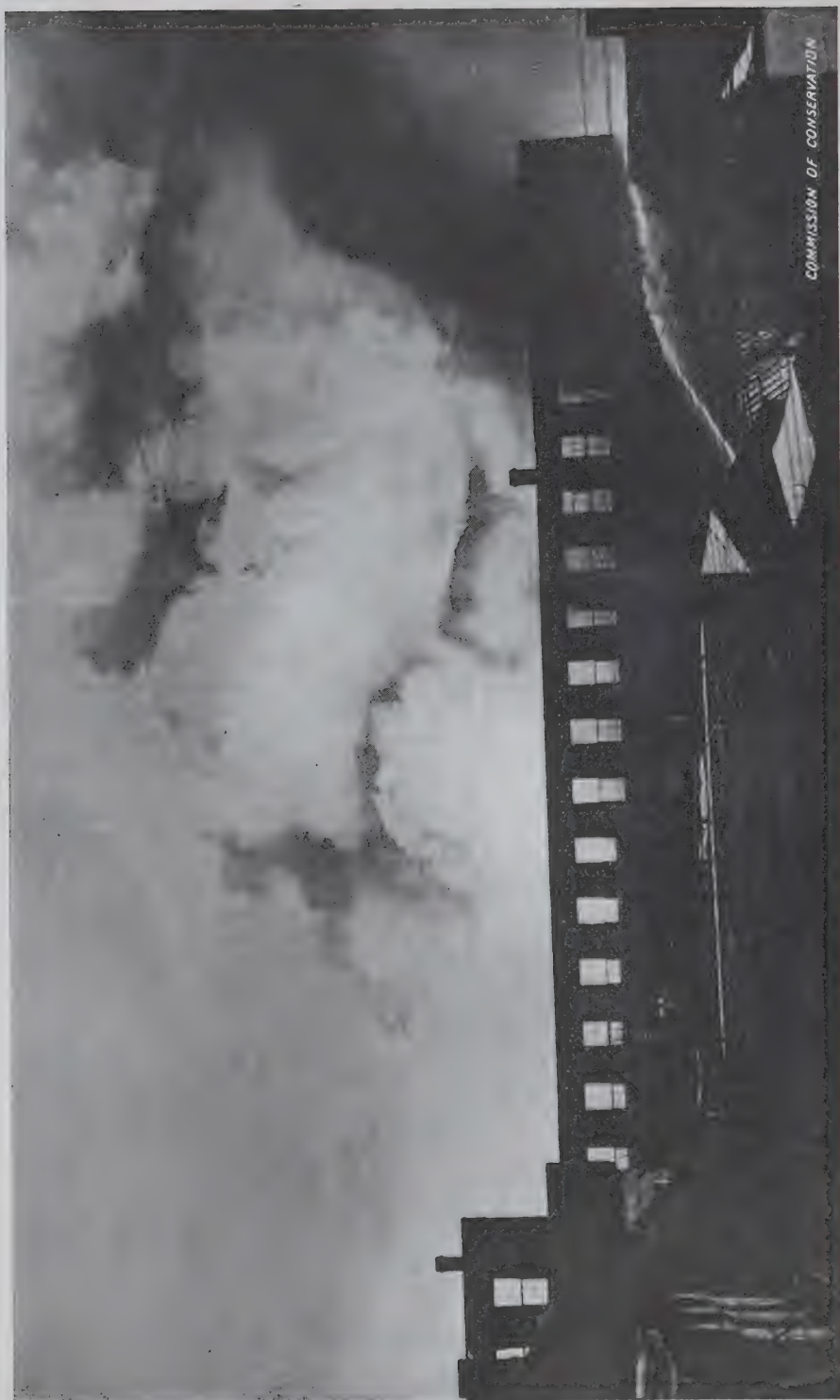
Today, public health asks the church to join hands in giving men better bodies, with the assurance that with that increased health and strength their spirits will become more noble. It asks the church to assist in making the community sanitary, fully believing that the church will benefit; for, all things being equal, the healthy man is the moral man—and as the men, so the community.

As the penalty of neglect to observe the moral, spiritual and sanitary laws is the same, namely, death—and as spiritual and bodily immortality may be regained—it would appear most rational that both should co-operate in the great uplifting of humanity.

Our health, our life, our happiness, depend much on a personal and intimate knowledge of sanitary science, and the question has been very appropriately put—whether if it were perfectly certain that the life and fortune of everyone of us would one day depend on our winning a game of chess, we should not all learn something of the game. Yet it is perfectly plain and clear that the life and fortune of every person depend on our knowing something of the rules of a game infinitely more difficult. The game has been played for untold ages and will continue to be played to the end of time; every man, woman and child is a player; the chess board is the world; the pieces the phenomena of the universe; the rules of the game are the laws of the Great Creator. The player to whom we are opposed is unseen; he always plays fair and just, but he never overlooks a mistake nor does he allow for ignorance of the laws governing the game. To the individual who plays well, the highest stakes are paid with overflowing generosity, but the one who plays ill is checkmated, often without haste and certainly without remorse, on the part of our opponent.

Thus health and life, disease and death are removed from the realm of fate, chance or luck.

We each must play the game, and what better assistance can we have than the co-operated help of the church and the sanitarian.



COMMISSION OF CONSERVATION

FACTORY FIRES ARE OUR HEAVIEST LOSSES

DESTROYING HUMAN INDUSTRY BY FIRE

CANADA is awakening to the enormous drain which her fire loss is making upon her material resources. Not only are the products of her forests, as represented by building materials of wood, and of her minerals, including stonework, brick and other ceramic products, being destroyed in almost incalculable millions of dollars of value, but the value of human industry is also being lost to the country.

What is burned is irretrievably lost. It cannot be replaced. True, with further expenditure of human endeavour and additional drains upon our natural resources, a destroyed building and contents may be replaced, but the original is gone forever. Insurance money may serve as a balm to the owner of the destroyed structure, but even here there is an economic loss, as this same money might have been better employed to produce something to add value to the country.

One cause of this criminal destruction, and probably by far the greatest, is *carelessness*. We are careless with fire in our homes; dangerous conditions are allowed to continue until a fire results. All fires are the same size at the start, and only lack of favourable conditions prevents each outbreak from becoming either a huge individual loss or a conflagration. Our heaviest losses, of course, are chiefly confined to the larger properties, such as factories, warehouses, or other commercial properties, but the very large number of smaller losses make up a total of which, were the latter to include all our fires, Canada need not be proud.

The same carelessness which exists in the home is carried by the workmen to their work places. In a very small number of cases is the employer responsible. He has everything to lose—when his plant shuts down his income ceases, and the market for his output passes to competitors. It requires but a few of these larger fires to make up their share of the total fire loss, and consequently the need for greater care and protection of the industrial risks.

Education, with efficient legislation strictly enforced, is required to bring home to the people of Canada what their carelessness and neglect of fire means.

Further, many of our fire departments can do much more than they are at present doing in the way of inspection to prevent fire. The visit of a uniformed fireman to the home leaves an impression that is lasting, and, under the new amendment to the Criminal Code, his recommendations must be carried out. That these inspections shall be carefully and efficiently made and the recommendations for alterations or improvement of conditions may be practical, it is essential that courses of instruction for firemen be established to qualify them for inspection work. To secure the effective co-operation of the public it is necessary to establish a feeling of confidence in the inspection staff, and only a recognition of the fact that special training is provided for those carrying on the work will inspire that confidence.

UNMARRIED MOTHERHOOD

THE annex number of illegitimate births in the British Isles is roughly 50,000 per annum, and the excessive death rate of the children born out of wedlock is an established fact. The latter is from two to three times that of legitimate offspring, and, unfortunately, this experience is universal.

In Norway, since 1914, the state has assumed responsibility for finding the child's father, or, in case he cannot be found, for acting the father. The alleged result, it is stated, has been the reducing of the death rate of illegitimate infants to the normal figure. It is also authoritatively stated that the difficulties anticipated from this legislation have not arisen, inasmuch as out of 8,000 paternity cases heard during two years in the courts, appeal against the decision was only raised in nine.

From the public health standpoint, there has never been any excuse for the differential treatment of different groups of necessitous mothers. The interest of the child is paramount. There are those, however, who fear that any relaxation of "deterrent" methods in regard to illegitimacy may result in increased frequency. They should look at all sides of a situation which is undergoing rapid changes.

In this connection, the recommendations made for the securing of better provisions for mother and child, at a Conference held at Mansion House, under the Chairmanship of the Lord Mayor, Sir Charles Wakefield, are of interest:

"1. That any scheme adopted should be elastic, and not exclude any mothers in need, whether married or unmarried; should be carried out in conjunction with the health authorities and existing societies, and be linked up with maternity and infant welfare work; also, should enable mothers to keep their babies with them for at least two years.

"2. That provision should be made in the following forms:—(a) Waiting homes for expectant mothers; (b) maternity homes; (c) allowances for mothers whose circumstances and home surroundings make it desirable for them to continue to live at home; (d) residential accommodation, with day nurseries attached, for mothers (with babies) who wish to live with their babies and go out to work; (e) foster-mothers, small homes, or adopting parents for the babies of those who cannot keep their children with them; (f) special homes for mothers suffering from such defect or disease as should preclude them from keeping their children with them.

"3. That the cost of the provision recommended should be met partly from Government departments and local authorities, and partly by voluntary subscriptions and payments from the mothers, but in no case by the Poor-law authorities."

We often despair of educating the public and governments in questions of Health. The former spend plenty of money in undermining their constitutions—but will spend little more than they have to in building them up until they get ill, when they will often swallow nostrums which the unscrupulous advertise.

THE DEFECTIVE IMMIGRANT

IN making an estimate of the extent to which public responsibility is involved in the creation of slum conditions in Canada, we have to consider some indirect causes, apart from the neglect of sanitation and defective municipal administration. These latter are, indeed, causing physical and mental deterioration among Canadian-born people, but they are also providing dens in which new immigrants, of defective mentality, are developing mentally-defective and criminal classes.

It is no criticism of the British people to say that a large proportion of the immigrants, even from the Old Country, are not good stock from which to build up a new citizenship. The truth is that a large percentage of those who are brought into Canada from England are failures at home, and are often so because of congenital defects. Their progeny may rise above their own level, but they never cease to suffer from their misfortunes of birth.

Dr. C. K. Clarke, Medical Director, Canadian National Committee for Mental Hygiene, points out in the *Toronto Globe* of Jan. 27, 1919, that out of nineteen girls introduced into Canada by one society, eighteen were mothers of illegitimate children—that was the case in one community. Out of four hundred admissions to jail in one western province, only 23 per cent were of Canadian birth.

The Austrians contributed 33 per cent, although their normal proportion should have been 8 per cent. Of 266 cases of unmarried mothers, which passed through one Ontario hospital, 191 were feeble-minded, 4 were insane, 45 were border-line cases, and only 26 were classified as normal. In Manitoba and Ontario the proportion of unmarried mothers was but slightly over 25 per cent Canadian.

These facts have to be put on the debit side of the account of public administration when we consider the respective obligations of the individual and society on the housing question.

CLOSING THE HOME IN SUMMER

BEFORE leaving the home for the summer vacation, a careful inspection should be made of the entire premises. It is well to throw out all electric light main switches and turn off the gas at the meter, also to see that the plumbing is in good condition. Turn off the water at its entrance to the house, to avoid any defect in water pipes causing damage by flooding. It is a good plan to pour a small amount of hydro-carbon oil into all traps and water seals to prevent evaporation of the water and the escape of sewer gas. Special attention should be given to floor oil mops and oily rags. These should be safely stored in metal containers, as they are fruitful sources of fire by spontaneous combustion. When the house is opened again, it should be well ventilated and thoroughly cleaned.

“HEALTH” vs. “PUBLIC HEALTH”

THE question is often asked “What’s in a name?” and this question may be very properly asked at the present time in regard to the new department which the Government of Canada has promised will be established in the near future.—

The first Boards of Health were established in England early in the nineteenth century, and their functions extended to the administration of laws and municipal regulations for the prevention of epidemics and the improvement of general sanitary conditions within the area of their several jurisdictions. Their powers and functions have gradually extended as laws have been amended and brought up to modern requirements. The present generation has grown up to look upon “public health” as restricted to the matters dealt with by the provincial and local boards of health. Possibly the legislative bodies in the provinces have not advanced very much beyond this limited sphere of activity. So far as actual health laws are concerned, they do not in any way represent the *all* of sanitary science, nor do they convey to the man on the street, the mother in her home, or the child at school, what the people of Canada really want, and what we must have.

The new Federal Department must be broad enough and as comprehensive as broad, to have as its basic principle the maintenance, as far as possible, of a normal condition of both body and mind of every man, woman and child in Canada as expressed by the one word, *Health*. The hygiene of the present is not medical or engineering only—it is more comprehensive; and, as the years roll by, will be still more so. To meet the wants of all classes of the people and all social and industrial conditions it would seem most appropriate that the term “Department of Health” would be the term best suited, to repeat again, to maintain a normal condition of the body and mind of each citizen of the country.

Under a Department of Health all the problems of social welfare, maternity, child life, the mental defective, industrial hygiene, town planning and housing, pollution of our water courses and all environmental conditions that directly or indirectly are prejudicial or are injurious to the health of the individual—indeed everything that prevents him from attaining to the full potentialities of his organism and thereby lower the physical condition of our people.

A Federal department, with a name so broad, should satisfy the many of these who are at present very rightfully calling for a consideration of their claims for departmental consideration—it is generic, not exclusive—and so comprehensive and elastic that it will meet any claims that the future may have in store—which may look for a higher, a better and a more lasting type of manhood and womanhood; and, lastly, it does not bear upon its face the impinging on the functions of the provinces and municipalities in matters now classed under the head of “public health,” and dealt with in an administrative manner.

It should be the business of the state to look after the health of the mothers and the children and prevent, by all possible means, any deterioration or depreciation of this valuable national asset.

THE RETURN OF INFLUENZA

IN speaking of the return of influenza, it is not to be implied that this obstinate and fatal disease, mysterious in many ways, has gone. Such is, unfortunately, not the case, for it is present in many parts of Canada at the present time, though not in epidemic form. The germs of influenza are still present with us, and it is impossible to say how long the disease may linger, or what circumstances conduce to its removal. The truth is, we do not know all about it, for pathologists differ in their expert views. To ascertain all the facts requires continuous research and intelligence work; the truth as to the presence of the filter-passing virus has yet to be conclusively proven.

Both the medical profession and the public must work together to prevent the spread of this scourge, the former along the lines of prevention and treatment, and the latter to avoid as far as possible the spread of the disease by a system of domestic inspection by which prompt medical care is obtained. It is only by team work on the part of the provincial and local health authorities, the medical profession, and public and private authorities that this end can be accomplished. The provision of competent nursing is a most important factor in turning the scale in the patient's favour, and measures taken in this direction are amply justified by past experiences.

As the epidemic of 1889-90 was followed by two others in the next two years, and the second was the most severe of the three, it is not too much to expect that there may at least be outbreaks more or less limited in their extent. The public should be warned and urged to give to the medical men their intelligent co-operation, and also that the patients be assured of the provision of adequate nursing assistance.

FEDERAL DEPARTMENT OF HEALTH

On March 26, Hon. N. W. Rowell, President of the Privy Council, introduced into the House of Commons a Bill to establish a Dominion Department of Health.

The introduction of this Bill is the culmination of a movement initiated at the Public Health Conference of the Commission of Conservation in October, 1910 and of many recommendations to the Government by various bodies interested in public welfare.

As will be seen from the text of the Bill herewith, the proposed Department of Public Health is given wide scope as detailed in section 4, "The duties and powers of the Minister shall extend to and include all matters and questions relating to the *promotion and preservation of the health* of the people of Canada over which the Parliament of Canada has jurisdiction."

The Act as passed by the House of Commons on April 11, is as follows:—

AN ACT RESPECTING THE DEPARTMENT OF HEALTH.

His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Department of Health Act*.

2. There shall be a Department of the Government of Canada which shall be called "The Department of Health," over which a Minister of the Crown to be named by the Governor in Council shall preside.

3. (1) The Governor in Council may appoint an officer, who shall be called "the Deputy Minister of Health," who shall be the deputy head of the Department and who shall hold office during pleasure.

(2) Such other officers, clerks and employees as are necessary for the proper conduct of the business of the Department may be appointed in accordance with the provisions of *The Civil Service Act, 1918*, and of any Acts in amendment thereof, all of whom shall hold office during pleasure.

(3) The Governor in Council may, subject to the provisions of *The Civil Service Act, 1918*, or any amendment thereto, transfer to the Department of Health any officer, clerk or employee now in the employ of His Majesty or of either or both Houses of Parliament, and subsection two of section seventeen of the said Act shall not apply to such transfers, and the money voted by Parliament for the financial year ending the thirty-first day of March, one thousand nine hundred and twenty, applicable to the payment of the salary or the increase of salary of any such officer, clerk or employee so transferred shall be available for the payment of his salary or increase of salary or the salary of any person appointed in his place in case of his death, retirement or dismissal while serving in the Department of Health, in the same manner and to the same extent as if such officer, clerk or employee had not been so transferred.

4. The duties and powers of the Minister administering the Department of Health shall extend to and include all matters and questions relating to the promotion or preservation of the health of the people of Canada over which the Parliament of Canada has jurisdiction; and, without restricting the generality of the foregoing, particularly the following matters and subjects:—

- (a) Co-operation with the provincial, territorial, and other health authorities with a view to the co-ordination of the efforts proposed or made for preserving and improving the public health and the promotion of child welfare;
- (b) The establishment and maintenance of a national laboratory for public health and research work;
- (c) The inspection and medical care of immigrants and seamen, and the administration of Marine Hospitals;
- (d) The supervision, as regards the public health, of railways, boats, ships and all methods of transportation;
- (e) The supervision of Federal public buildings and offices with a view to conserving and promoting the health of the Civil Servants and other Government employees therein;
- (f) The enforcement of any rules or regulations made by the International Joint Commission, promulgated pursuant to the treaty between the United States of America and His Majesty relating to boundary waters and questions arising between the United States of America and Canada, so far as the same relate to public health;

- (g) The administration of the statutes mentioned in the Schedule to this Act, and of Acts amending the same, and also of all orders and regulations passed or made under any of the said Acts; and all the duties and powers of any Minister of the Crown under either of the said Acts or any of the said orders or regulations, are hereby transferred to and conferred upon the Minister of Health;
- (h) Subject to the provisions of *The Statistics Act*, the collection, publication and distribution of information relating to the public health, improved sanitation, and the social and industrial conditions affecting the health and lives of the people;
- (i) Such other matters as may be referred to the Department by the Governor in Council.
5. The Governor in Council shall have power to make such regulations as may be necessary to give effect to and carry out the objects of this Act, and to impose penalties for any violation of such regulations.
6. There shall be a Dominion Council of Health consisting of the Deputy Minister of Health, who shall be chairman, the chief executive officer of the Provincial Department or Board of Health of each Province, and such other persons, not to exceed five in number, as may be appointed by the Governor in Council, who shall hold office for three years. The Dominion Council shall meet at such times and places as the Minister may direct, and shall be charged with such duties and powers as the Governor in Council may prescribe.
7. Nothing in this Act or in any regulation made thereunder shall authorize the Minister or any officer of the department to exercise any jurisdiction or control over any Provincial or Municipal Board of Health or other health authority operating under the laws of any province.
8. The Minister shall annually lay before Parliament, within fifteen days after the meeting thereof, a report and statement of the transactions and affairs of the Department during the year then next preceding.

SCHEDULE

REVISED STATUTES OF CANADA 1906

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STATUTES OF 1908

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The Acts in amendment of any of the foregoing Acts.	

There is a large field awaiting the activities of the new department, and, under the policy of reconstruction initiated by the Government, much that will be of benefit to Canada as a whole may be expected.

PERSONAL RESPONSIBILITY FOR FIRES

ONE of the most important and far-reaching amendments which has been introduced into the Criminal Code in Canada, is that contained in an Act passed at the present session of Parliament, intitled "An Act to amend the Criminal Code Respecting Prevention of Fire."

That there is abundant need for this amendment is evidenced from the fact that, when compiling the data for the report on "Fire Waste in Canada," issued by the Commission of Conservation in 1918, a questionnaire was submitted to 309 authorities on fire losses and fire prevention. In answer to the question "What practical remedies for the fire losses they proposed" the following answers were given:

1. Laws to enforce personal responsibility..... 114
2. Laws to enforce better care and maintenance
of buildings..... 98
3. Laws to compel better building construction.. 93
4. Laws to regulate the insurance business in the
interests of fire prevention..... 67
5. Laws to compel improved public fire protection 49
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It will be seen that the amendment proposed will have a wide and effective bearing upon Nos. 1 and 2 of these conditions, and indirectly upon Nos. 3, 4, and 5.

The amendments are:

1. Section five hundred and fifteen of *The Criminal Code* is amended by inserting the following subsection immediately before subsection two thereof:—

"(1A). Every one is guilty of an indictable offence and liable to two years' imprisonment who by negligence causes any fire which occasions loss of life or loss of property.

"The person owning, occupying or controlling the premises in which such a fire occurs, or on which such fire originates, shall be deemed to have caused the fire through negligence if such person has failed to obey the requirements of any law intended to prevent fires or which requires apparatus for the extinguishment of fires or to facilitate the escape of persons in the event of fire, if the jury finds that such fire, or the loss of life, or the whole or any substantial portion of the loss of property, would not have occurred if such law had been complied with.

2. The said Act is further amended by inserting immediately after section five hundred and fifteen the following section:—

"515A. In any case where any fire insurance company which carries any policy of fire insurance on the property, or any Dominion, provincial or municipal fire officer or authority recommends that the owner, lessee or other person controlling or operating any building, structure, factory, shipyard, vessel, dock, wharf, pier, sawmill, or yard in which logs or lumber are stored or held, should make any change or alteration in such building, structure, factory, shipyard, vessel, dock, wharf, sawmill, pier or yard, remove any material therefrom, or supply any apparatus therefor, with a view to reducing the risk of fire or for the extinguishing of fire, and such recommendation is approved by any officer in the service of His Majesty, thereto authorized by the Governor in Council, and notice of such recommendation and of such approval

thereof has been served personally upon or forwarded by registered mail to such owner, lessee or other person; and such owner, lessee or other person refuses or neglects to forthwith carry out such recommendation, such owner, lessee or other person shall be liable upon summary conviction to a fine not exceeding one thousand dollars, or to imprisonment for any term not exceeding six months, or to both fine and imprisonment."

ENLARGEMENT OF THE THYROID: GOITRE

THE Commission of Conservation, in obedience to many requests, has just issued a pamphlet on the above subject, by Francis J. Shepherd, M.D., LL.D., F.R.C.S., etc., Emeritus Professor and late Dean of the Faculty of Medicine, McGill University. The pamphlet treats of the incidence, course, causation, prophylaxis and treatment of Goitre.

In an explanation of how to keep free from enlarged thyroid or simple goitre, Dr. Shepherd says:

"First of all, perfect cleanliness and good hygienic surroundings are necessary. Food should be carefully protected from infected soils and other materials. As the water is infected from the soil, it is necessary to use pure water. Boiling the water is most important, for in this way the *contagium vivum*, or active organism, is destroyed. For washing purposes the water may be disinfected by the use of chloride of lime or iodine. The sanitary disposal of sewage is important also. The removal of all manure heaps (which, of course, means the removal of all stables and byres) from the immediate neighbourhood of dwellings is most important; also the doing away with cesspools. In country parts dry-earth closets are more hygienic, if their contents are afterwards properly disposed of. These precautions in the localities where goitre exists will all tend to the lessening or abolition of the affection."

POTENTIAL PARENTS

THE National Baby Week Council, of England, in a circular just issued, says:

"Is it not strange that, though we prepare our young folks—boys and girls—for many of their responsibilities in life, we so often launch them into the tempestuous seas of their own developing natures and passions without a word of warning, without a compass whereby to steer? For the great adventure of marriage and of parenthood we give them no training, not even a sure knowledge of their own divine powers of creative energy—and can we wonder if, sometimes, there is shipwreck? Doctors tell us that we have three great racial poisons to fear above all others—alcohol, tubercle and venereal diseases. Of these three it is the last which takes the heaviest toll from the new life of the race. A large proportion of miscarriages and still-births, many of those numerous deaths that occur in the first few weeks of life, lie at the door of these diseases, as well as some half of our blindness, much of the mental deficiency and many of the most serious ills from which civilized man suffers. And yet we dare to allow our young men and women to face life in offices and workshops and schools without one single word

of definite instruction or knowledge in these matters, without a definite ideal of parenthood and race responsibility to guide them. If we would have a strong and healthy nation we must give to our boys and girls self-knowledge, and an understanding of the laws of nature and sex, and above all, a definite ideal of clean and responsible parenthood."

BABY FEEDING

ALL babies should be breast fed from the day of their birth until they are nine months old, when weaning should be begun gradually. Never wean a baby in July, August or September, in case he gets diarrhoea. Many babies die and suffer through this terrible disease, which can be avoided if baby is breast fed and well cared for. When baby is weaned, his chief article of diet for some time will be fresh cow's milk. Be careful to get your milk from a clean dairy. Be sure your milk jug is perfectly clean, cover the milk at once, and store it in the cleanest, coolest place in the house (in the summer time cool the milk by standing in cold water) to prevent flies and dirt getting into it. Every house should be kept clean to keep it free from flies, which are disease carriers, and one of the causes of that terrible disease which kills so many babies, viz., summer diarrhoea. The dummy, or "comfort," should *never* be given to a baby. This is one of the causes of mouth breathing. Baby goes to sleep with the dummy in its mouth, it drops out, and the mouth is left open. The dummy often falls on the floor, and is picked up and put in the baby's mouth without being properly cleansed, thus carrying dirt and germs into the baby's system.

If the money which is spent in treatment were devoted to the preservation of Health, the number of hospitals could be reduced by one-half.

Canada wants healthy, vigorous men and women, so that the nation may hold its own in the league of nations. We must be a nation of stalwarts of A1 class.

It is the first duty of citizenship for every man and woman to do their utmost to improve the race and to endeavour to maintain the highest standards.



CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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Conservation of Life

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The opinions expressed and statistics quoted by the writers of articles and papers appearing in *Conservation of Life* are the opinions and statistics of the authors only.

LESSONS OF THE INFLUENZA PANDEMIC

COURSE OF THE OUTBREAK

A study of the history of the influenza epidemic reveals the fact that the outbreak in the summer and autumn of 1918 was the most formidable on record.

Owing to the great war interrupting international communication and thus preventing the securing of reliable information it is impossible to obtain definite information as to where it took its origin. We only know at present that it was first reported from Spain about May, 1918, hence the popular term 'Spanish Flu'. According to Army reports, however, the disease was prevalent in epidemic form in France and in the British Army as early as April, 1918, previous to its having been reported from Spain.

It was there characterized by high infectivity, rapid spread, short duration and low mortality.

The first cases in Great Britain were reported in Glasgow in the month of May, being of a mild type and occurring in three factories and one industrial home: there were 436 cases but no deaths. Subsequently, it was reported from Portsmouth, England, in June, being at first confined to the military and naval forces, subsequently spreading to the civilian population.

So far as Canada is concerned, we find that cases of influenza of a mild type occurred in Nova Scotia in June, 1918, and, later, in the same province in the September following. In the months of October and November, it was epidemic in every province in the Dominion and continued through December and into the early months of the year 1919, though with a generally decreasing case incidence and lessened severity.

It is impossible to give anything like the exact figures as to either the number of cases or of the deaths and the official returns from the various provinces are not yet available.

It is difficult to trace the sequence of events in any country as a whole, owing to the absence of notification and the fulminate character of the outbreaks, but the enquiries so far made show a gradual diffusion of infection from the more populous centres to the villages and thence to the rural districts, chiefly along the avenues of travel. The most important factors in the dissemination of the disease were schools, churches, dancing assemblies and theatres, etc., while the rapidity is explained by the short incubation period of 48 hours, the sudden onset, the high infectivity of the patient during the first days of illness and the fact that practically old and young were susceptible, but few enjoying natural immunity.

CLINICAL FEATURES

In the summer outbreak in Great Britain, the symptoms were, as a rule, mild, there was a sudden onset of malaise, pain in the back and head, with catarrh only occasionally present, a temperature rarely above 102° F., and defervescence at the end of three or four days, followed by only slight lassitude and depression. It was only as the epidemic progressed that the symptoms become more severe; there was a tendency to hæmorrhage as evidenced by epistaxis, blood-stained sputum, increased menstrual flow and hæmorrhage from the bowels, also a tendency for the lungs to be involved, with often fatal results. The October epidemic was much more severe in character, the outstanding feature being the frequency and severity of the pulmonary complications.

There is evidence of what appears to be, a gradually augmenting virulence of the infecting organism or organisms, thus accounting for the severity of the pandemic in the later stages.

CONTRIBUTING CIRCUMSTANCES

So far as Europe was concerned, the contributing circumstances were the accident of season, overcrowding and, generally, the hardships, both mental and physical, consequent on the war, including the restriction of fuel. So far as can be ascertained, both rich and poor suffered alike and, though no age group escaped, the younger adults suffered the most, although statistics show that the incidence shifted as the epidemic became more severe.

SPECIFIC CAUSE

There are still differences in opinion as to the specific cause but little doubt as to the complications or sequelæ, which are produced by different bacteria, the chief being the influenza bacilli, pneumococci and hæmolytic streptococci, these often acting together on an organism whose powers of resistance are weakened by the severe primary infection.

The discordant results as to the specific organism are largely due to the failure on the part of bacteriologists to isolate what had, particularly in the early stages of the epidemic, hitherto been supposed to be the cause, viz., the influenza bacillus of Pfeiffer. Such other organisms have been found as Gram negative micrococci, Gram positive diplococci, pleomorphic streptobacilli and others.

Up to the present time, some workers claim to have transmitted the disease by injection into monkeys and human beings of the filtered bronchial secretion of influenza patients, though attempts to confirm these findings have been unsuccessful by others.

Evidently the work of the bacteriologists must be pushed much further before a finality is reached.

ADMINISTRATIVE CONTROL

As our knowledge of the cause and our study of the epidemic are incomplete, the making of recommendations for control of the disease is difficult and necessarily imperfect.

We do know the following facts in regard to influenza:

1. It has a very short incubation period, about 48 hours;
2. The virus is highly infective;
3. Infection is carried from the sick to the healthy in the secretions of the respiratory tract;
4. It is iniectious only within fairly small distances;

5. The period of infectivity extends to one week after the normal temperature has been reached;
6. The question of immunity is a slight factor;
7. The pulmonary complications are serious and often fatal.

It must be pointed out that these facts are not sufficient for any one to dogmatise as to the measures we must adopt for purposes of control and for alleviating severity or as to their being efficacious in every instance.

To think of preventing the importation of influenza by quarantine is Utopian, chiefly from the fact that there are many unrecognized cases.

NOTIFICATION

When influenza is with us, we can only learn of its whereabouts and of the number of cases by notification. There is, however, the difficulty of the diagnosis of the early cases, many being so mild in type that a physician's services are not requisitioned and others being passed over by the medical attendant as 'a cold.' As a result the infection becomes widespread before the local health authorities are aware of the presence of the disease in the community.

Various schemes of notification have been suggested, none of which can claim to be satisfactory. It would seem from present experiences that all cases of a cold or catarrhal bronchitis should be notified but the municipality should be prepared to set down a stated fee for the notification, not only of this class of cases but of all communicable diseases, before we can expect any satisfactory results from 'notification.'

To make 'influenza complicated by pneumonia' a notifiable disease seems rather an absurd procedure as the physician may be confident of the influenza but in doubt about the pneumonia and, therefore, must await the development of positive diagnostic signs of the pneumonia before notification. Meanwhile the influenza, being infectious in the early stages, has spread the disease.

It has been found in Great Britain that, as a rule, Medical Officers of Health have had to rely for their information mainly on health visitors and their sanitary staff, but even then many necessitous cases were overlooked.

MUNICIPAL PROPHYLAXIS

Health authorities generally carried on active work in the rapid education of the public to the adoption and enforcement of measures which were calculated to lessen the opportunities for infection.

To this end the assembling of people in overcrowded and ill-ventilated buildings was discouraged or prevented altogether. Some local authorities went so far as to close theatres and other places of public amusement and to limit the shopping hours, while schools were closed and children excluded from cinemas. It was a common experience for health authorities to urge upon the public the necessity for better ventilation and there was a widespread movement for more fresh air, and it is to be hoped the world generally will have learned the untold benefits to be derived from a more general use of this remedy of nature.

As a means of prevention, the use of the face mask was recommended in many countries, only hesitatingly in some, rigidly in others. At the present time both professional and lay opinion is divided on the question. It would seem that the face mask should be a good thing but, generally speaking, its practical application is now limited to nurses and attendants. It is essential that the masks be so constructed and

worn as to prevent the inhalation of infected material from the patient. As a measure of general prophylaxis, the face mask or eastern veil requires more experimental trial and public sanction before its use be made compulsory.

It would seem that too often during this epidemic our health authorities, in their endeavour to prevent the spread of the infection, have been most erratic and, as a result, have not been thorough. Frequently they have lost sight of the fact that the life of a nation cannot stand still. What avails it, if we close cinemas and places of amusement and allow overcrowding of railway trains and tram cars? There is, certainly, a middle course to be pursued in dealing with the matter and it is desirable to leave to local authorities a certain amount of discretionary latitude, ever remembering that health regulations, to be successful, must be practical and sound, particularly when they outrun public opinion, which is always most conservative in all matters relating to health.

DISINFECTION

In the case of influenza, the routine disinfection is hardly necessary, but care must be taken to destroy the discharges from the nose, mouth and throat, and clothing and articles soiled by these discharges should be boiled and washed.

DISINFECTION

The gargling of the throat and spraying of the nostrils with some mild disinfectant has been generally recommended. It should certainly be followed out systematically by those in attendance on the sick. The public, however, should be cautioned not to pursue this practice too far as thereby the vitality of the nasal mucous membrane may be injured.

MEDICAL AID

Nursing Service and Home Assistance—The great difficulty of the pandemic was to secure early and adequate professional treatment of the cases, owing to the scarcity of medical men, while the greatest difficulty of all was the shortage of trained nurses. Local authorities made the best of the situation by using each trained nurse as a nucleus around which voluntary helpers were gathered.

Many municipal authorities established crèches and kitchens, from which latter volunteers helped to prepare food for afflicted families. Also, the poorer families were materially aided by monetary assistance and supplies of bedding, etc.

Institutional Treatment—So rapidly did the cases occur, the general hospitals were soon found to be inadequate to meet the situation and, in many cities and towns, emergency hospitals were started in schools, halls and large private houses and, in this manner, the supply of doctors and nurses was economized and the cases were more efficiently handled.

Use of Vaccines—It is impossible to speak with any degree of certainty on the success or failure of vaccines. Several varieties have been tried with the double object, if possible, (1) of increasing resistance on the part of the individual to the primary infection and (2) of providing against the very fatal sequelæ.

Although the military forces afforded an excellent field for trial of these vaccines under controlled conditions not to be met with in a civilian population, yet the British War Office Committee did not urge the use of these preparations with any great assurance. The chief

reason for the questionable efficacy of the vaccines is due to the fact that doubt still exists as to the microbic cause of the disease, and this must be settled before a specific vaccine can be prepared.

EDUCATION

It was the universal practice for all health authorities to endeavour to educate the public by means of leaflets, posters, notices in the press, lectures in schools, exhibitions of cinema films, etc., as to the nature and gravity of the disease, how to prevent infection and the precautions to be observed in case of attack.

CONCLUSION

It is quite obvious that no permanent health staff can cope with an epidemic of such magnitude without the voluntary aid of those who are trained in first aid and home nursing. The professional staff must act as the nucleus around which the voluntary workers must rally. The permanent authorities should be so prepared that in any such similar emergency they can summon trained volunteers to their assistance. The machinery should be ready for action, so that there may be no hasty education or mobilization but preparation for attacks of disease during health. A better and wider diffusion of knowledge of the essentials for the prevention of disease is also very desirable.

It must be quite evident, even to the casual reader, that, despite the fact that we have witnessed the widespread misery and the death-dealing effects of the most serious pandemic of influenza the world has probably ever known, we know comparatively little about it. The world is left staggering under a blow in some respects more serious than the great war, and we can only at the best theorize and discuss. We may prevent another world war, but it cannot with certainty be stated that we know how to prevent another pandemic of influenza. Therefore, there must be painstaking and patient research. Governments, as representing the people, should each and all, in co-operation, provide the funds to carry on this research work, since it is for the benefit of all humanity—*C.A.H.*

SUGGESTIONS FOR VILLAGE IMPROVEMENTS

TO permit of social and educational development, the Village Clubs Association recommends that there be a motor transit system to enable people to share in the fuller educational and social possibilities of the market town, and the following features in the village itself:

1. A group of workshops;
2. A system of school gardens;
3. The use of buildings for lectures on rural subjects;
4. Shower baths and an open-air swimming bath;
5. A hall equipped with a stage and dressing rooms to be used for plays and meetings;
6. A gymnasium;
7. A reading room and children's library;
8. Rooms for the use of organizations such as the boy scouts, girl guides, and clubs and societies for adults;
9. A café with a garden adjoining, where light refreshments could be had, and where a village band could play and dances be held at least one evening a week;

10. Additional school instruction during the winter, including lectures on general subjects.

It is not suggested that this scheme is applicable in its entirety for Canadian villages, but it contains many valuable suggestions which could be worked out for the benefit of community life which would be materially benefited by the adoption of some of these suggestions. They are worth trying.

CANADA'S POST-WAR HOUSING PROGRESS

Although Canada had no war housing policy, such as that which was adopted in England and the United States, it has inaugurated a post-war housing policy which is likely to have far-reaching effects on the industrial and social development of the country.

HOUSING AS A PART OF RECONSTRUCTION

The building of homes is incidental to the development of industry. Improvement is needed in two directions: first, to raise the standards of existing dwellings and, second, to build new houses according to better standards than those which have prevailed in the past. We have to begin in Canada, as in all other countries, by recognising that neglect of housing conditions has been probably the chief weakness of our social organization in modern civilized nations. With the growth of manufacture and the consequent expansion of cities into larger aggregations of population, together with the increased subdivision of labour, there have arisen numerous evils which the war has helped to reveal to us in their true proportions.

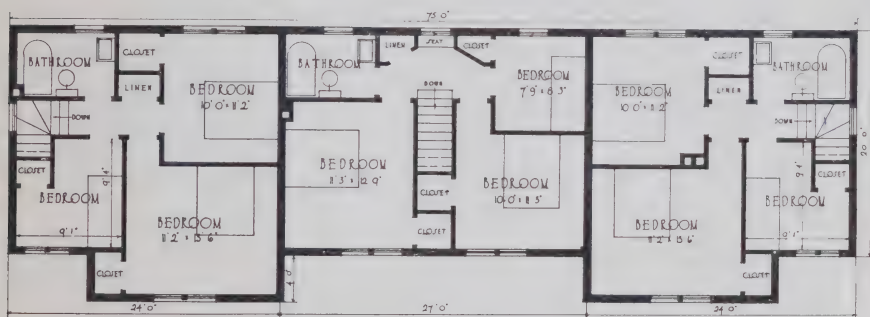
One of our troubles has been that we have been easily persuaded to act in relation to a number of these problems as if the only true guide was experience of similar conditions in the past, without recognizing that such a guide is not reliable by itself in dealing with conditions that never have existed in their present form. There is no precedent for the modern city, and there is no existing city which is a precedent for those who will have to deal with the changing conditions of 20 years hence. It is not merely a matter of difference of local conditions, of changes in forms of transportation and custom; it is also a matter, in regard to the largest cities at least, of expansion beyond anything hitherto dreamed of, much less experienced. Some of the greatest cities are growing beyond the size, in matter of population, of what has hitherto been regarded as great states.

In Canada we follow at some distance behind England and the United States in the matter of size of our biggest cities and we may benefit, therefore, from the result of past experience. One of the benefits is the lesson that reliance upon mere experience without the assistance of science and imagination is a fatal thing. It is a lesson that we are very slow to learn. The war has shaken us up a bit and made us realize the importance of these problems and so it has come about that men are beginning to regard increased production and economic efficiency instead of mere cheapness for cheapness' sake in relation to labour. One of the first necessities to obtain efficiency is the improvement of housing conditions.

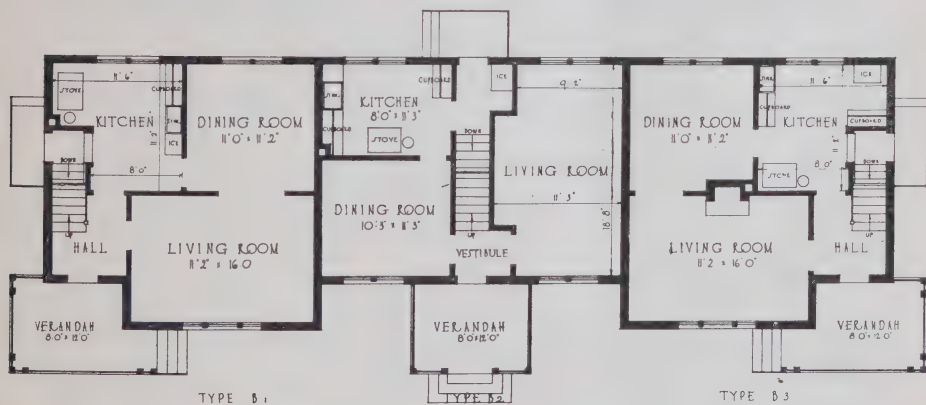
Perhaps, however, we can hardly pride ourselves on having attained the position of introducing a housing policy solely because we have become more far-seeing and enlightened in our methods. To some



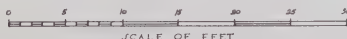
FRONT ELEVATION



SECOND FLOOR PLAN



FIRST FLOOR PLAN



DRAWING NO 2

17 MAY 1919
OTTAWA

HOUSING COMMITTEE OF THE CABINET CANADA
OFFICE OF HOUSING AND TOWN PLANNING ADVISER
GROUP OF THREE SMALL HOUSES TYPE B

The House
HOUSING AND TOWN PLANNING ADVISER
W.C. BOWEN
ARCHITECT

extent, and perhaps to the greatest extent, the cause of action has sprung from the shortage of dwellings due to war conditions, the need for provision being made for employing surplus labour, and the desire to assist in avoiding industrial unrest. Even, however, if we regard these things as the most pressing causes of action there is no gainsaying the fact that a very considerable element in promoting action has been the recognition apart from war conditions of the general need for housing improvement and better social standards in Canada.

Housing in England and the United States during the war was to some extent guided by military needs, even if it was carried out in an enlightened way. The housing policy being promoted in Canada as a reconstruction policy, is likely to be of more social advantage to us as a community because its chief stimulus must come from the desire to improve social conditions. In other words we are spending our money and effort on housing improvement not for the purposes of defence but for purposes of development. This does not mean that war housing in other countries has not taught us valuable lessons, but it means that we are entering upon a different field which, if rightly cultivated, should yield us better results than war housing.

THE CANADIAN POLICY ON THE RIGHT LINES

While Canada has not any war housing to its credit, its policy in connection with post-war housing seems to be on the right lines. Leaving out of consideration whatever merits we may see in it ourselves, we may mention the comments of two well-informed observers.

Mr. C. Stanley Taylor, Project Engineer for the firm of Mann and MacNeille, New York, who were advisers to the U.S. Government on many of their housing projects writes:

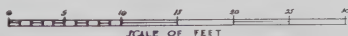
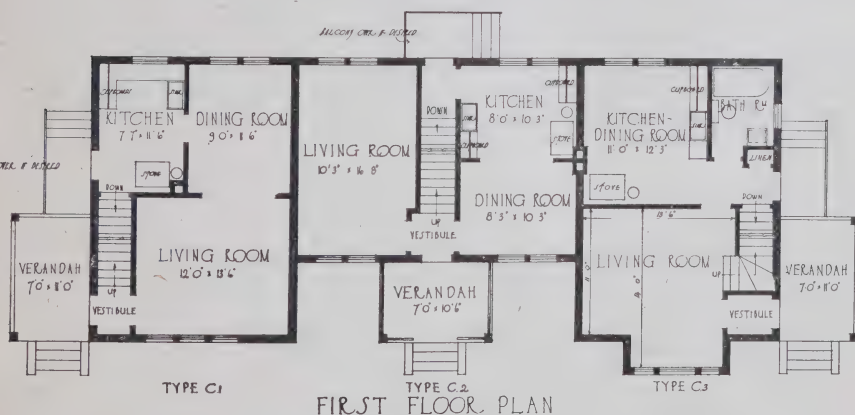
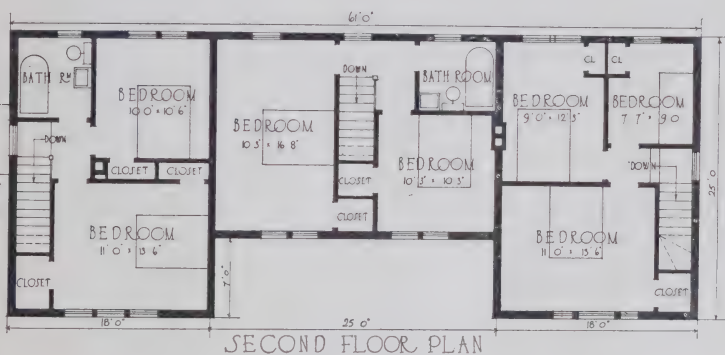
"We wish to express our unqualified admiration for the completeness, practicability and simplicity of the administration methods outlined in the data received from you. We believe this to be the most practicable step toward the provision of good housing by Federal co-operation which has yet been taken in any country."

Mr. Horsburgh Campbell, M. Inst. C.E., City Engineer of Edinburgh, states that the Canadian project is on sounder economic lines than the proposed housing schemes in Britain.

VALUE OF CO-OPERATION BETWEEN FEDERAL, PROVINCIAL AND MUNICIPAL GOVERNMENTS

The evidence of merit of the Canadian Housing Scheme is, however, to be obtained chiefly from the fact that it is proving a workable measure of co-operation between the Federal, Provincial and Municipal Governments.

Only three months after the Armistice, the Federal housing project was passed by Order in Council, after having been approved of by the Dominion and Provincial Governments, for general application throughout the whole Dominion. In that scheme there was not only provided an appropriation of \$25,000,000 but all the conditions, principles and standards that were considered desirable to lay down or recommend, for regulating the expenditure of the money in the proper way were included. On the same date that the Federal scheme was approved, viz., the 20th February, 1919, the general housing scheme for the province of Ontario, which had been prepared in accordance with the Federal scheme, was approved by the Governor in Council. Since then schemes have been approved for Quebec, Manitoba and British



DRAWING NO 3
MAY 1949
OTTAWA

HOUSING COMMITTEE OF THE
OFFICE OF HOUSING AND TOWN
GROUP OF THREE SMALL HOUSES TYPE C

CABINET CANADA
PLANNING ADVISER

J. H. H. H.
HOUSING AND TOWN PLANNING ADVISER.
A. D. COMPTON
ARCHITECT

Columbia. Draft schemes have also been drawn up for Nova Scotia, New Brunswick and Prince Edward Island, thus leaving only two provinces which have not prepared or submitted schemes, namely, Alberta and Saskatchewan.

To show the progress that has been made by the municipalities under one scheme, a recent report of the Director of Housing for Ontario shows that 47 municipalities have passed by-laws to come under the provisions of the Ontario Housing Act.

The Director estimates that the loans required by those municipalities will aggregate about \$8,000,000. Plans and specifications have been forwarded to him for approval from about ten of the above-mentioned municipalities. In several of these places the construction of houses under the Act has been commenced.

One half of the cities in Ontario have come under the provisions of the Act.

From the information in the director's hands, he anticipates that over sixty municipalities will be actively engaged in the construction of houses under the Act, during the summer. A number of them are making plans for acquiring land and erecting houses on a large scale.

The progress in setting up machinery to deal with housing has also been considerable. Dr. Nadeau has been appointed as Director of Housing for Quebec, and Mr. J. A. Ellis for Ontario, and special officials have been assigned the duty of supervising housing development in other provinces.

Under the Federal Order in Council of 12th December, 1918, the Housing Committee of the Cabinet was recommended to obtain the assistance of the Town Planning Adviser of the Commission of Conservation. Since the above date a small Federal Bureau has been temporarily set up, attached to both the Housing Committee of the Cabinet and the Commission of Conservation, to deal with the matters which come under Federal regulations and carry out the work of research and preparation of model plans, which it is considered desirable to have done in the Federal office.

The Federal office will deal mostly with the giving of advice, and in that respect it is already fully employed. Model plans such as those shown on pages 51 and 53 will be distributed to the different provinces and to municipalities that make a request for them. Information will be collected regarding standardization of materials, costs data, etc. All this work will be carried on, although necessarily in a small way for the present, at the same time as the promotion of town planning legislation and schemes.

CHARACTER AND CONTENTS OF HOUSING SCHEMES

The above indication of the progress that has been made during the past five or six months needs, if we are to realize the importance of that progress, to be supplemented by some description of what a housing scheme is. The Federal scheme, dated February 20th, only lays down four conditions. These may be summarized as follows:—

1. A general housing scheme has to be prepared by each province and submitted for the approval of the Federal Government. This general scheme will set out the standards and conditions to be complied with in local housing schemes. Once the general scheme for the province is approved by the Federal Government the jurisdiction in respect of local schemes will rest with the provincial authorities.

2. The maximum amount that may be loaned per dwelling shall not exceed, for different sizes and types of dwellings, inclusive of land, etc., the respective sums of \$3,000, \$3,500, \$4,000, and \$4,500.
3. Loans for building houses and purchasing land may be granted only to Provincial Governments, Municipalities, Housing Societies with limited dividends, and owners of lots for the purpose of erecting houses for their own occupancy.
4. The loans shall be repayable over a period of 20 or, in special cases, of 30 years.

In addition to the above four conditions, general recommendations are made dealing with the following matters:

1. Acquisition of sites, etc.
2. Planning of sites, etc.
3. Loans for separate or individual houses.
4. Limit of income of persons to be provided with dwellings.
5. Construction of local improvements to precede occupation of dwellings.
6. Reservation of sites for playgrounds, etc.
7. Loans to be used for purchasing and developing land and erecting dwellings.
8. Proportion of cost of land to dwelling.
9. Recommendations as to minimum standards in regard to sites.
10. Recommendations as to minimum standards in houses.
11. Legal and other costs.
12. Compliance with general scheme, etc.

With regard to these matters it is recommended that land be acquired at its cost by a cheap and speedy method and without regard to speculative value; that sites, as well as houses, should be properly planned; that one acre in every 10 should be reserved for playgrounds; that water supply and sewerage should be provided in advance of building; that not more than one-tenth of the cost of a house should be spent on the bare site and that proper minimum standards of construction, air space, size of rooms, etc., should be provided in or surrounding the actual building.

The unique part of this legislation in regard to its general principles is the introduction of town planning as an essential part of housing. Indirectly there is also an effort made to encourage durable and permanent, in preference to temporary, construction, so as to assist in dealing with unsatisfactory fire risks.

As a whole, however, the outstanding and, to some extent, remarkable feature of the scheme in Canada is the extent to which it both co-ordinates and splits up the responsibilities of the Federal, Provincial, and Municipal Governments. It is certain that if the scheme succeeds on the present co-operative basis, it will not only be of immense value to the country, but have considerable influence on the measures adopted by other countries. The hesitation in following this method of Government co-operation in the United States is undoubtedly due, in part at least, to a lack of faith in its practicability. There is no misgiving as to its soundness in principle among those who have commented on proposed measures of Federal and State co-operation in such matters. Canada has the opportunity, however, of proving that the principle of such co-operation is not only sound, but that it is practical and efficient in practice.

Of necessity, such a scheme involves that the final responsibility for actual building and financing of housing schemes will rest with the municipality. It cannot be otherwise, unless there is Federal or Provincial interference with municipal control, which would not be acceptable under Canadian conditions. Whatever danger there may be of the housing project in Canada not achieving success will be due to indifference or fear of facing loss on the part of the municipalities. As our municipalities show an inclination to do their duty, we may well hope that no such danger will arise.—T.A.

WELFARE SUPERVISION OF FACTORIES

WELFARE WORK AS A BRANCH OF FACTORY MANAGEMENT

A PART altogether from the lessons learned in the army during the great war, many of which will require modification before they can be brought into practice among a civilian population and some of which are not applicable when separated from the important factor of discipline as maintained in an army in time of war, some very important practical and far-reaching lessons have been learned, which must bear fruit now the war is over.

The experience in connection with the many thousands of work-people who were engaged in war work and who performed their tasks under the most trying conditions, many of which had never been met with before, have opened up to both the employer and employee new possibilities.

It is not correct to say that the principles involved in this welfare work in factories have not heretofore received the attention of employers of labour for, in some isolated cases, the more humane of them have attempted work of this kind and with beneficial results. It is rather a movement forced upon them by war conditions which called for the highest possible efficiency of workpeople to meet the demand for an almost unlimited output within the minimum of time. There have been many heads at work to devise the best ways and means. The effect of these activities has been to demonstrate how welfare work can be carried out and that it pays all parties concerned.

All this war work has made clear, although perhaps it is not yet fully appreciated, that the economy of industry depends very much upon the capacity of the worker, which is directly proportional to vigour and health. These two qualities are materially affected by environment and conditions of life which render possible and maintain a healthy and vigorous staff of employees. It has also been demonstrated that to maintain perfection in health of men and women is as much a part of successful factory management as the devising of machinery, the perfection of processes and the fixing of rates of wages.

Largely due to the war, a branch of factory management has been established, which, for the present, is known as "factory welfare". Perhaps the term may stand, for it goes beyond the American method of scientific management, as it studies both the work and the human worker. It is not a branch of the "social welfare" movement; it is one which must be undertaken by the management co-operating with the employees and directed by some person whose whole time is devoted to the study of the many intricate questions which present themselves. An officer of this kind must be given authority and must be considered as much an integral part of the works management as the engineer or

any other person and, too, must have an equal weight in the councils of the establishments.

The duties of the welfare department may be divided into two groups, (a) personal—as regards the employees and (b) structural—concerned with the the conveniences of the buildings.

DUTIES AFFECTING THE PERSONNEL

Engagement of workers—The welfare department should be charged with the responsibility of the engagement and discharge of all labour, acting, of course, in co-operation with each department of the works, should be responsible for seeing that those engaged come up to a certain general standard of health, mental activity and bodily strength, and should never lose touch with any employee. If a worker either gives or receives notice to leave, the fact should forthwith be notified to the welfare branch and the officer should satisfy himself of the necessity for such action, as often slight personal grievances could be adjusted, thus preventing a class of wastage which is a burden to industry,

Wages—Though the branch has nothing to do with fixing the rate of wages, it must be conversant with the methods of payment and should be in a position to inform workers as to how their wages are calculated and thereby assist many who do not fully understand their limits or powers of output.

Lost time—The department can materially reduce the lost time incident to sickness, accidents, fatigue and general discontent. These services are particularly valuable when women are employed.

Personal tidiness—It is a common experience that better and neater work is done by those who themselves are neat and tidy. Even the smallest thing should not be overlooked by the welfare supervisor.

An umbrella at the proper time is equally as important to keep the clothing dry as good shoes to keep the feet comfortable. The selection of appropriate overalls should always be decided upon by this department and it should advise as how to make them attractive and becoming, particularly for the women.

It must be an essential function of the welfare branch to supervise all provisions made for rendering first aid in cases of accidents or sudden illness and the establishment of aid posts and ambulance stations, properly equipped and in charge of a trained first aider. The keeping of records of cases should be made obligatory.

In the smaller factories this department could well have charge of the central kitchen and dining-hall. Also, it could well supervise the recreation and amusements of the employees, as well as the hostel or whatever the company may decide upon as best suited to meet the wants of its own group of workers.

The foregoing are some of the important features of the department's work relating to the personnel. There are many others of a minor character which will occur to both employer and employee.

DUTIES RELATING TO STRUCTURAL CONVENIENCES

Without going into the details of the duties connected with structural conveniences, an indication of the chief features of this work will clearly suffice to show its nature.

They include: cloakrooms, sanitary conveniences, lavatories, ventilation, overcrowding, heating, lighting, cleanliness of the shops, safety, including an inquiry as to the cause of any accident. For efficiency's sake, each individual employee should have an adjustable bench

in view of the fact that the height for convenient work must be regulated to the height of the individual employed.

The foregoing is but a rough outline of what has been done during war time. The results achieved fully warrant the adoption of some form of welfare supervision in the factories of this country, for it means a social uplift as well as added efficiency. It is this humanising of business which will make for industrial peace and a better life for all of us.—*C.A.H.*

THE HOSPITAL ALMONER—AN OPENING FOR SOCIAL SERVICE

FIFTEEN years ago, the office of 'lady almoner' was instituted in connection with the hospitals of Great Britain. Experience has demonstrated her great usefulness in social welfare work in the out-patient departments of the larger hospitals.

The scheme owed its inception to Sir Charles Lock and the work was first instituted at the Royal Free Hospital, London. It began with the two-fold purpose of stopping abuse and preventing misuse of the out-patient departments of the voluntary hospitals, but it has greatly outgrown these narrow, though useful, lines of work, and the almoner has been an important factor in establishing the modern out-patient department in its true position, viz., that of a social welfare department.

We have witnessed the work of the 'lady almoner' and can speak with assurance both as to her efficiency and usefulness. We know cases referred to her by medical men where advice and assistance have been given when they were more important factors in the aid to recovery of health and strength than the medicine prescribed. Indeed the use of the latter would have been minimized by the patients remaining in their every-day environment.

In Great Britain, the almoner has, in the carrying on of her social welfare work, assisted in attacking the difficult questions of housing, food and employment, all three of which are contributing to the causation of illness, and it is rightly claimed that this social service has been of great benefit to the nation. At the present time the demand for trained almoners exceeds the supply.

The training takes a minimum of 18 months. It comprises practical work in the out-patient department of a general hospital under an experienced hospital almoner, theoretical instruction in social subjects, elementary hygiene and physiology and other practical instruction. Many hospitals have, however, thought best to proceed along lines adapted to their own peculiar conditions and, in this particular, more experience on all sides is required before the ideal scheme is evolved. But the chief factor in the success of the work is the person rather than the catalogue of duties, for it is the factor of the human personality which makes for success.

In this time of reconstruction there should certainly be an opening for some of the women of Canada to begin and successfully carry on this work, particularly in our larger centres, although many ladies with leisure may find openings in connection with the hospitals of our towns. Some of them have had experience in the recent influenza epidemic and realize in part what can be done, but it requires some one with the necessary funds at his disposal to start the work in, say, Montreal, Toronto and Winnipeg. We know of no more deserving object and feel assured an experiment would result most successfully.—*C.A.H.*



WELL FURNISHED SCHOOL PLAYGROUND

A place where mind and body can find wholesome recreation.



A CONTRAST TO THE ABOVE

Where the children of our slums must 'play'. Why not give them a real playground?
In any case, why not clean up such places?

PLAYGROUNDS FOR CITY CHILDREN

HAVE we not room in Canada to give our children decent playgrounds? The illustrations in this issue show the sort of places in which we condemn many of the children of our cities to play—or rather, to pass their time, for real play is impossible in such places. These pictures do not represent exceptional conditions. They are typical of every-day life in the poor quarters of a Canadian city. It is in this environment that we are permitting future citizens—if any future is vouchsafed to them—to mould their bodies and their minds. In the words of Tennyson.

“Is it well that while we range with science, glorying in the time,
City children soak and blacken soul and sense in city slime?”

It is not well. These “playgrounds” lead to poverty, crime, disease, deformity and premature death. Such iniquitous conditions react on all society and are responsible for much of our social disorder.

We had better spend money properly to rear our own Canadian children and to give them their just and rightful heritage rather than to import questionable aliens from overseas. And for the sake of these young lives, give them what they are entitled to—a healthy environment.—*C.A.H.*

TRAVELLING BABY CLINIC

IN Montreal, a Travelling Baby Clinic has recently been started with a most commendable object, namely: to take a trained baby doctor and nurse to the home of the poor mother overburdened with home cares and work, and unable to go a distance to the health centre, also to arouse indifferent mothers to the importance of precaution rather than cure, which at present is all they consider necessary.

The following is a statement of Dr. W. A. L. Styles: “When the mother cannot bring the child for any reason whatsoever to our health centres, we must perforce visit the child at home. We expect private enterprise to engineer the scheme, as practically all child conservation propaganda is so financed in the metropolis of Canada, where infant mortality, always at a record height, is even increasing of recent years.”

A Montreal daily thus describes the first trip of this useful motor clinic:

“Through the lanes and by-ways in the poorer sections of the lower west end of the city the first travelling baby clinic in Canada made its initial trip the other afternoon.

The motor bus of the University Settlement was equipped for the occasion with scales, measuring board, literature, case-cards, etc.

“The first afternoon’s work disclosed the following facts: Of the thirty babies from two weeks to eighteen months old weighed and measured during that afternoon only five were found to be normal, and in each of these cases it was ascertained that no artificial nourishment had been given to the child. Of the remainder, many showed evidence of under-development and a sickly condition due to malnutrition, bad sanitation, lack of sunlight and fresh air. In reply to the question as to what sort of food the baby was receiving the answer almost invariably was ‘condensed milk’. This, the mothers explained, was cheaper than fresh milk, the keeping of which in the summer necessitated an outlay of ice. The babies examined all showed an under-nourished condition, and rickets prevailed in many cases. It was ascertained that the food given



VAN OF THE TRAVELLING BABY CLINIC



NURSES VISITING BABIES AT THEIR HOMES

to babies from nine months and upwards was 'something of everything', with the inevitable result from such a course of feeding—sickly children."—C.A.H.

PROPAGANDA AGAINST PUBLIC HEALTH

HEALTH authorities and workers in Canada should be alive to the danger of insidious propaganda now being carried on in the name of religion to emasculate the entire public health programme. The movement is not so in evidence in the Dominion as in other countries but it is insidiously pursuing its nefarious and deadly work.

The most recent manifestation of this 'Cult' was the introduction into the State Legislature of Minnesota of a Bill, entitled "To Prohibit Compulsory Medical Examination and Treatment—Except in Certain Cases, Without their Consent and, in Case of Minors, Without the Consent of their Parents or Guardians, and Prescribing Remedies Against, and Penalties for, Violation thereof."

The bill failed of passage, but the public are cautioned against a movement of this kind by which the physical examination of cases of communicable diseases, even in epidemic form, or the powerful agent of quarantine itself, would be prohibited and penalized.

Under the sacred name of religion many prejudices have taken shelter and questionable things have been done in the past. This attempt to frustrate the safe-guarding of public health is the most modern form of this hypocrisy.—C.A.H.

"SAFETY FIRST" AND "FIRST AID"

AS all human contrivances lack perfection, we must expect that humanity must ever be exposed to the accidents incident to industry. It is proper we should emphasise the importance of 'safety first', but the fool is ever present with us; and, as a consequence, accidents will occur even in well regulated factories.

According to the *Labour Gazette* there were 1,222 fatal industrial accidents in the Dominion during the year 1918, although the figures are stated to be incomplete. The highest percentages occurred in connection with the following industries:

	Deaths	Per cent of total
Mining, smelting, and quarrying.....	263	21.5
Steam railway services.....	255	20.9
Lumbering operations.....	155	12.7
Metals, machinery and conveyances.....	122	10.0

The number reported under the head of agriculture was 36, or 2.9 per cent of the total, and the causes were as follows: animals, 5; run over or caught between cars, 2; falls of persons, 9; lightning, 1; machinery, 11; objects falling, 5; objects flying, 1; vehicles, motor-driven, 2. This last figure would indicate either a greater care on the part of motorists in rural districts or a better familiarity of the agriculturists' horses with automobiles.

Altogether, there were only 3 deaths reported as caused by hand tools, 2 from exposure to cold or frost bite, 3 from heat prostration, 1 from lightning, 5 from asphyxiation and 8 from suffocation.

There were two deaths from animal-drawn as compared with thirteen from motor-driven vehicles. The deaths by drowning among our industrial population were 70, of which no less than 28, or 40 per cent, were lumbermen, and only 5 fishermen.

Attention should also be drawn to the fact that 18 deaths were attributed to blood-poisoning, distributed as follows:

Lumbering.....	3
Mines, smelters and quarries.....	1
Metals and machinery.....	2
Foods, tobacco and liquor.....	2
Chemicals and explosives.....	3
Leather.....	1
Steam railway service.....	4
Miscellaneous.....	2
Total.....	18

A study of this interesting report emphasizes the great necessity for the observance of care on the part of all, or the policy of 'safety first'.

At the same time we would urge upon the public at large, both men and women, to seek instruction in 'first aid' to those who are either injured or sick. It is safe to say that at least 10 per cent of the 1,222 lives lost during 1918, or 125 lives, could have been saved had those near been possessed of knowledge in 'first aid'. All employers of labour should afford the opportunity to their employees to qualify in this important subject. This can be done through the St. John Ambulance Association which, up to the present time, has granted certificates to no less than 80,000 persons in Canada.

To the credit of the Railways of Canada it may be stated that they are most active supporters of the St. John Ambulance Association; also many of our large industrial and commercial corporations, as well as the police and fire brigades, are now in line as 'first aiders'.

The prompt rendering of first aid at the time of an accident prevents loss of time, of health, of limb, and of life. The obtaining of the necessary knowledge simply requires attendance at five lectures and demonstrations and it is worth any one's while to obtain that knowledge, that when accidents occur he, or she, may render the aid essential for the relief of his fellow worker and before the arrival of medical assistance.—C.A.H.

CANADIAN GLUTEN FLOUR NOT STANDARD

THE attention of the Senate of Canada was recently directed by Hon. Dr. DeVeber to a condition which exists in this country in respect to the quality of the gluten flour, so-called, manufactured in Canada.

As this class of flour is put up and advertised for the special use of diabetics, whose very existence depends upon a strict dietary of protein substances and particularly the use of bread made from a *bona fide* gluten flour, we consider the sale of any camouflaged flour for this purpose is criminal in the highest degree.

The diabetic can only take a very limited quantity of carbohydrates, i.e., food containing starch, and the manufacture or sale of any brand of gluten flour that is not up to the standard of quality places many persons' lives in great jeopardy. No government is warranted in permitting a continuance of this most unsatisfactory practice.

Senator DeVeber quoted the report of Dr. A. McGill, Chief Analyst of the Department of Inland Revenue, as stating that, of eighteen samples of gluten flour examined by him, only five, or 27·5 per cent, were of standard quality and these were not manufactured in this country. The remaining 13, or 72·5 per cent, were all made in Canada but were below standard.

We have, therefore, the fact before us that some thirteen different Canadian manufacturers of so-called gluten flour are selling a commodity which is specifically for the use of those unfortunately suffering from diabetes and upon which they, in the main, depend for their very existence, and yet not a single sample is considered a standard article by the Chief Analyst.

The Chief Analyst further stated that "Gluten flour in contradistinction to normal flour is required to contain not more than five and six tenths per cent of organic nitrogen, not more than ten per cent of moisture and not more than fifty per cent of starch. Dealers in this article were perhaps not aware that a standard existed for it.

"We define gluten flour, and that is the only definition we have in our Act. In the United States Food Inspection Decision No. 160, not only is gluten flour defined but ground gluten, self-raising gluten flour and diabetic food. We have not yet defined these terms.

"There is a standard for gluten flour, but that is all; there is not for bread.

"As a matter of commercial prudence, I would think any manufacturer would insist upon knowing what he was uttering as gluten bread or gluten flour, or diabetic food, because he knows quite well that sooner or later he is going to be penalized."

The situation demands that the 'made in Canada' gluten flour should be of standard quality or should be prohibited from being sold under that name. Severe punishment should be meted out to the vendor of any such article when he sells to the unsuspecting sufferer a food which is nothing less than a danger to his life. The act is all the more criminal owing to the fact that it is sold for his special use and for the purpose of prolonging his life.—C.A.H.

NATIONAL COMMITTEE FOR COMBATING VENEREAL DISEASES

THE action of the Federal Government in convening a conference at Ottawa of the representatives of National and Provincial authorities and associations interested in the important question of controlling venereal diseases will be generally approved throughout Canada.

Two officers of the United States Government, Major Joy, Director of the Commission on Training Camp Activities, and Capt. Mook, Director of Law Enforcement to the same Commission, attended the Conference. They described the methods employed in the U. S. Army to combat the diseases both in training camps and at the seat of war.

The public generally appreciate the great advances made by the military authorities of Great Britain and Canada in the early treatment of venereal diseases and in the possibilities of cure by the various remedies of the salvarsan class. Great benefits have also accrued from recreational facilities provided by various organizations, whereby the men were attracted away from the pitfalls of vice.

But—there is always a 'but' and it is a most important one in dealing with this great national ulcer—what did the army do with the inmates of the 'red light' districts and the many single houses of prostitution which were suppressed in certain districts?

The military did not annihilate the professional prostitutes. It is only natural to suppose they went beyond the sphere of military activity only to pursue their iniquitous calling elsewhere, thus increasing the number in the areas not under military control.

What action did the civil communities take to suppress these professional prostitutes thus scattered? On this question, we can obtain no information. Again, what action will the civil authorities take when military control is a thing of the past?

We await with interest information on these important questions and, while waiting, would point out as food for thought and action that the military segregated and medically treated the soldier with venereal diseases, thereby minimizing their effects. What can be done practically for the man and the woman civilian suffering from venereal diseases?

We have not only not solved the problem of the professional prostitute; there remains also the problem of the debased scoundrels who lead innocent women astray and, later, cast them off. We condemn the woman and prevent her reformation while we condone the offence of blackguards who have the effrontery to make no secret of their vicious practices.

The National Committee for Combatting Venereal Diseases, certainly comes into existence at an opportune time and none too soon. It has a great and most difficult work before it, but its aims must meet with the support and approval of all who have the interest of the young men and women of Canada at heart. They are as follows:

1. To provide accurate and enlightened information as to the prevalence of venereal diseases and as to the necessity for early treatment;
2. To promote the provision of greater facilities for their treatment;
3. To increase the opportunities of medical students, practitioners and trained nurses for the study of these diseases;
4. To encourage and assist the dissemination of a sound knowledge of the physiological laws of life in order to raise the standard of both health and conduct;
5. To co-operate with existing associations and to arrange, in connection with such organizations, for courses of lectures and to supervise the preparation of suitable literature;
6. To promote such legislative, social and administrative reforms as are relevant to the foregoing aims and objects.—*C.A.H.*

HIGH MATERNAL MORTALITY IN CHILD-BEARING

A RECENT address before the Royal Society of Medicine by Dr. Victor Bonney, in which he discussed the continued high maternal mortality in child-bearing, is most interesting and worthy of more careful consideration.

In only five of fifteen countries has there been any diminution in the mortality of child-bearing in recent years, namely, England and Wales, Ireland, Japan, New Zealand and Switzerland, and, of these, England and Wales and Ireland are the only ones that show a falling

off in the percentage of deaths due to puerperal sepsis, or child-bed fever, which is the commonest cause of death.

The scarcely diminished prevalence of child-bed fever is of national importance on account of the very great number of cases of acute illness that it occasions, which do not end fatally. It is injurious in three ways: (a) the community is constantly deprived of the working activities of a certain number of its members; (b) a considerable proportion of the patients are rendered sterile by the disease, whilst others are discouraged from child-bearing; (c) a certain number of children perish because they have to be withdrawn from the breast.

Child-bearing is a physiological process, exercised for the benefit of the race and at the cost of the individual. Unfortunately there is a want of understanding of the dangers of child-bearing, and a custom has become established by which child-birth takes place under conditions which are faulty as regards surgical asepsis.

Often, in the homes of the well-to-do, the surgical operation of labour is performed in a room in which a much more simple surgical operation would not be performed.

To prevent the conveyance of organisms from the adjacent skin into a wound, the up-to-date surgeon prepares the skin beforehand with powerful antiseptics and further attaches towels or rubber sheeting in such a way as to eliminate the skin from the operation area. It is urgent that such principles be applied to labour, for the skin of the ano-perineal region is the most heavily infected of any skin area in the body. Even then absolute sterility of the anal region can never be assured.

The author concludes that not until midwifery is recognized as a surgical art, requiring a full course in modern surgery, will there be any diminution in the mortality due to child-bearing.

The remedy proposed is the establishment of large lying-in hospitals maintained out of the public funds, either national or municipal or both.

The statistics are somewhat extended, but in part are as follows:

The deaths from child-bed fever in Great Britain may be indicated by the following tables:—

ENGLAND			SCOTLAND		
Year	1913—1.3	deaths per 1,000 births	Year	1911—1.7	deaths per 1,000 births
"	1914—1.6	" "	"	1912—1.9	" "
"	1915—1.5	" "	"	1913—1.6	" "
"	1916—1.4	" "	"	1914—2.3	" "
"	1917—1.3	" "	"	1915—2.3	" "

It is interesting to study the mortality returns in Canada as regards this important question and those of the provinces of Ontario, Manitoba and Quebec are herewith submitted, as they confirm, at least, the statement made by Dr. Bonney, for they show that "over a period during which enormous advances have been taking place in every other branch of our profession, obstetrics alone, as judged by its results, has advanced very little. Something is wrong somewhere, and this applies not only to British obstetrics but to obstetrics all over the civilized world."

MORTALITY FROM PUERPERAL SEPTICÆMIA (CHILD-BED FEVER)

Province of Ontario

Year	Registered births	Deaths	Rate per 1,000 births
1908.....	57,155	98	1.71
1909.....	54,465	82	1.50
1910.....	55,871	82	1.46
1911.....	57,235	121	2.11
1912.....	58,870	127	2.15
1913.....	64,516	108	1.67
1914.....	66,235	144	2.17
1915.....	67,032	115	1.76
1916.....	65,264	112	1.71
1917.....	62,666	107	1.70
Total 10 years.....	609,309	1,096	1.79

Province of Quebec

1907.....	58,466	120	2.05
1908.....	64,914	90	1.38
1909.....	71,078	102	1.43
1910.....	73,824	124	1.69
1911.....	74,475	99	1.31
1912.....	76,647	139	1.82
1913.....	79,089	128	1.61
1914.....	80,361	156	1.89
1915.....	83,274	118	1.40
1916.....	80,327	114	1.41
Total for 10 years.....	742,455	1,190	1.59

Province of Manitoba

1909.....	12,255	15	1.22
1910.....	11,721	25	2.13
1911.....	15,918	35	2.19
1912.....	14,666	43	2.93
1913.....	16,424	31	1.88
Total for 5 years.....	70,984	149	2.07

We have no means of knowing at present what is the relationship of this child-bed fever to gonorrheal infection, but investigation along this line might lead to interesting results.—C.A.H.

GARDENS FOR VILLAGE HOMES

THE final report of the Women's Housing Sub-committee of the British Ministry of Reconstruction makes this interesting recommendation in respect to the 'village home.'

"In country villages, the convenience of the housewife with regard to her cottage can hardly be considered apart from the garden. A good-sized garden round the house has twice the value of an allotment at a distance. It should be large enough to grow vegetables for the family for the year and to contain some fruit trees. If it adjoins the house, it can be used for a drying-ground and for a safe place for the children to play in out of doors. In determining the size of the gardens for the new cottages, the need for increased home production must be kept in view, also the likelihood of the tenant keeping pigs, poultry and rabbits."

HOUSING, TOWN PLANNING AND CIVIC IMPROVEMENT IN CANADA

NOVA SCOTIA

THE Nova Scotia Town Planning Act has been amended in accordance with suggestions made by the Town Planning Branch of the Commission of Conservation. The Act formerly required that town planning schemes or bylaws had to be prepared before 1918 but the war prevented this being done. Under the amendments made the period for compulsory preparation is extended to 1921. The Act has also been widened in scope to deal with rural as well as urban development. The model town planning by-laws of the province have been prepared for recommendation to the municipalities.

Nova Scotia has also passed a Housing Act to enable the province to take advantage of the federal loan. A draft housing scheme is under consideration. In the investigations made into the housing shortage in Canada and the costs of building it has been found that conditions are worse in Halifax than in any other part of the Dominion, owing to the combined effects of exceptional prosperity and the destruction caused by the disaster of 1917.

The Halifax City and County Schemes, covering five large areas, are well advanced in preparation.

NEW BRUNSWICK

The St. John Town Planning Scheme, dealing with over 20,000 acres, has been approved by the Councils of the city and the county municipalities. This is an important achievement having regard to the novelty of many of the provisions of the scheme and the somewhat drastic changes which they introduced in local procedure. The scheme has been prepared by the City Planning Commission in consultation with the Town Planning Branch of the Commission of Conservation. The Housing Act of New Brunswick is now on the statute books and a housing scheme has been prepared by the province and approved by the Federal Government.

QUEBEC

In Quebec a Housing Act has been passed, a provincial housing scheme has been prepared and a Director of Housing has been appointed. The Quebec scheme conforms more strictly to the Federal scheme than the schemes in any other provinces. Practically all the recommendations of the Federal Government have been introduced into the Quebec scheme in a mandatory form. The appointment of Dr. Nadeau as Director of Housing is significant of the importance which the province attaches to the promotion of housing schemes in the form of Garden Suburbs and with proper town planning provisions. For many years Dr. Nadeau has been an active worker for town planning and housing reform in Quebec.

Housing Commissions have been appointed in Montreal, Hull and other cities.

Although Quebec is the only eastern province without a Town Planning Act it has introduced town planning provisions in its housing scheme and the intention is to pass a Town Planning Act at the next session of the legislature.

ONTARIO

The fact that Ontario was responsible for initiating the movement for Government housing in Canada and that the province has appropriated \$2,000,000 of its own money to be spent in housing has given it a start in advance of the other provinces in the matter of carrying out housing schemes. The Housing Act and scheme of the province was approved by the Federal Government on the 20th February last.

Mr. J. A. Ellis, an ex-Mayor of Ottawa and a member of the Ontario Railway and Municipal Board, has been appointed Director of Housing, and is giving able leadership to the movement in the province. The Director reports that 47 municipalities have already appointed housing commissions and applied for loans, and that the whole of the \$10,000,000 available is already spoken for. Actual building operations have begun in Toronto. Two sites of about 40 acres in area have been acquired in the city of Ottawa and are being planned with a view to building operations being started in the immediate future.

MANITOBA

The Housing Act and the housing scheme of Manitoba are now law. Owing to the strike there has been some delay in starting operations in Winnipeg where the housing shortage is acute.

SASKATCHEWAN

Unfortunately, owing to the conditions under which municipalities in Saskatchewan may borrow, it has not been practicable to put the Federal Housing scheme in operation in this province. Commissioner C. J. Yorath states that the chief stumbling block in Western Canada for the carrying out of a housing scheme is the fact that the provincial Government intends to make any loans which may be advanced for this purpose part of the municipalities' debt. In the matter of town planning and control of municipal affairs Saskatchewan has perhaps the most advanced legislation in the Dominion. The Town Planning and Rural Development Act is administered by the Department of Municipal Affairs. The comprehensive nature of this Act may be gathered from the following list of regulations which have been issued under it:—

- (1) Town Planning and Rural Development (Scheme) Procedure Regulations;
- (2) Town Planning and Rural Development (By-law) Procedure Regulations;
- (3) Regulations applicable to new development within the jurisdiction of municipalities which have not made regulations as authorized by section 5 of the Town Planning and Rural Development Act, and to new development in unorganized territory;
- (4) Model regulations respecting new development for adoption by urban municipalities;
- (5) Model regulations respecting new development for adoption by rural municipalities.

The object of the Act is effectively to control the development of cities, town and rural municipalities. The importance of this being done is fully realized in Saskatchewan. Not only has the necessary legislation been obtained but Mr. M. B. Weekes, M.E.I.C., Director of Surveys, has been appointed Director of Town Planning, and W. A. Begg, A.M.E.I.C., formerly Townsite Engineer for the Department of Highways, has been appointed Town Planning Engineer. The services of both will be available to local authorities to assist and advise in the preparation of schemes and development by-laws.

ALBERTA

The conditions regarding the housing scheme are the same in Alberta as in Saskatchewan and, consequently, no action is being taken to put the scheme in operation.

The preparation of town planning schemes for the larger cities is proceeding.

BRITISH COLUMBIA

British Columbia is the only western province without a Town Planning Act, but it is intended that an Act will be introduced at the next meeting of the Legislature. A Housing Act has been prepared for the province and is now in operation. Hon. T. D. Pattullo, Minister of Lands, is in charge of the administration of the Act, and it is likely that British Columbia will be able to show exceptionally good results in the promotion of better housing.

CIVIC IMPROVEMENT LEAGUES

It is desirable that another conference of the Civic Improvement League of Canada should be held during the present year. The previous annual conferences took place at Ottawa, 1916; Winnipeg, 1917; and Victoria, B.C., 1918.

The objects of the League, as a national body, are confined to the bringing together annually of the local civic organizations in the Dominion. It is not possible, however, for such a League to continue as a permanent organization in the form in which it now exists. Now that the war is over some definite steps should be taken to create a permanent body to educate public opinion on matters connected with civic improvement and municipal government. It is hoped that it will be possible to arrange a Conference in the autumn, at which one of the important questions to be considered will be the future organization of the League.

*Men, my brothers, men and workers, ever reaping something new;
That which they have done but earnest of the things that they shall do;*

*For I dipt into the future, far as human eye could see,
Saw the vision of the world, and all the wonders that would be;*

*Saw the heavens fill with commerce, argosies of magic sails,
Pilots of the purple twilight, dropping down with costly bales;*

*Heard the heavens fill with shouting, and there rain'd a ghastly dew
From the nations' airy navies grappling in the central blue;*

*Far along the world-wide whisper of the south-wind rushing warm,
With the standards of the peoples plunging thro' the thunder-storm;*

*Till the war-drum throb'd no longer, and the battle-flags were furl'd
In the Parliament of man, the Federation of the world.*

*There the common sense of most shall hold a fretful realm in awe,
And the kindly earth shall slumber, lapt in universal law.*

—TENNYSON.

CONSERVATION OF LIFE

Public Health, Housing
and Town Planning

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PARTNER-OWNERSHIP BUILDING SOCIETIES

THEIR OBJECTS AND METHODS OF ORGANIZATION

In the general housing project of the Federal Government it is provided that public money may be advanced for building houses on sites owned by:

(a) The Provincial Government or Municipality;

(b) Housing Societies or Companies comprising groups of citizens associated to promote good housing, supplied with proper improvements, such societies or companies to have a statutory limitation of dividends payable on stock of not more than 6 per cent;

(c) Owners of lots for the purpose of erecting houses for their own occupancy.

A housing society or company referred to in the second paragraph may take the form of an ordinary stock company formed in accordance with the company law of a province and with no other special feature than that which limits the dividends of its stock-holders to six per cent. Such a company, operating under the Ontario or Quebec acts for increasing housing accommodation, would require to have 15 per cent of its stock obtained from private investors and the balance of 85 per cent by borrowing on bonds guaranteed by a municipality.

A society or company could erect houses to let to tenants in the same way as if it were an ordinary landlord, or it could sell houses and repay its borrowed capital and stock as it sold. Both of these things have been done by the Toronto Housing Company. If the company failed to be a commercial success the stockholders might lose their money and, in an extreme case, where more than 15 per cent depreciation in the capital took place, the municipality might have to meet part of the loss. A company of this kind would consist of shareholders sufficiently interested in providing houses or in solving the housing question to invest their money on what would undoubtedly be a semi-philanthropic basis. They would receive 6 per cent on their capital but, as the money borrowed in municipal bonds would be a first mortgage on the property up to 85 per cent of its value, the 6 per cent would not be a commercial return on the 15 per cent capital put in by the shareholders. Indeed the shareholders would be providing money that could not be raised as an investment on a building security. As a business proposition the 15 per cent should really be provided by the occupants of the dwellings, but the shareholders would not themselves be likely to consist in any large measure of the actual occupants of the dwellings, unless some special inducement were given for such occupants to become shareholders

as a means of giving them a special title to tenancy or ownership of a house.

CO-PARTNERSHIP COMPANIES IN ENGLAND

There is another form of company, known in England as a Co-partnership Company, which has many advantages and has met with a large measure of success in England. It is an alternative, not only to the stock company referred to, but also to individual ownership.

The housing question is not only one of building houses but also one of giving the occupant of the house a permanent interest in his home. Ordinarily the tenant of a house lacks this permanence of interest and, to that extent, it is not desirable to encourage tenancy. On the other hand, too much is claimed for the privilege of individual ownership under the conditions that exist in Canada today, where perhaps most owners of small houses have mortgages on which the interest is as heavy as an ordinary rent.

One advantage of being a tenant is that a man is free to leave a house on comparatively short notice if, as a result of change of employment, it is necessary or desirable to do so. Tenancy is, therefore, preferred by large numbers of workingmen because of this advantage of mobility.

CO-PARTNERSHIP SOCIETIES MAY BORROW DIRECT FROM THE GOVERNMENT

In England co-partnership societies obtain their loans *direct* from the National Government and, in order to give further encouragement to them, the Government has recently decided to give them a special subsidy. All other loans are given through the agency of the municipalities.

The British Government places co-partnership societies in practically the same category as the municipalities in respect to loans for housing purposes, except that it naturally gives the municipalities somewhat greater freedom and improved terms because they are part of the machinery of government. Probably no form of private organization is recognized by the Government with such special favour as the co-partnership societies.

In Canada at present the co-partnership society can only obtain its loan and its authority to proceed through the agency of the municipality, and in turn, the municipality has to submit its scheme and get its loan through the agency of the province. This makes the procedure very cumbersome, and involves much more complication and "red tape" than in England. It militates against the formation of partnership societies.

The Federal scheme is so framed as to permit housing societies or companies of a "co-partnership" nature to be formed, financed and regulated directly by the province, without the intervention of the municipality, but the provincial regulations do not permit of, or at least do not encourage, this simple procedure.

Having regard to the vital importance of encouraging "co-partnership" in building, as in connection with other social activities, the provinces should take advantage of the opportunity given by the Federal Housing Project to encourage and finance such societies directly, *i.e.*, without using the municipality as an intermediary.

OWNERSHIP OF HOMES IN CITIES

In older cities like New York the number of owners is as low as 12 per cent. In comparatively new cities like Toronto it is about 40 per cent, and in cities of very recent growth it may run up to 60 or 70 per cent; but the proportion of workingmen who own houses is likely to be considerably less than the average number of owner-ships in a community. There is not much difference between the proportion of owned homes in old cities on the American continent and the cities in England—although a larger proportion of the owned houses in England are erected on leasehold land.

The man who owns a home is less free than the tenant to alter his place of residence, and it is not true that it is always the thriftless and least efficient who wish to move. It is frequently the most efficient and ambitious, whose movement is upwards and should not be discouraged.

The chief disadvantage of ownership, however, is due to the fact that the average workingman is not an unencumbered owner of his property, and is less a free agent than he could be as a tenant. In some cases he has no greater permanent interest as an owner than as a tenant. He may own the equity, that is, the amount he has paid, but it is the mortgagee who really owns the property as a whole. During the struggling years of early married life many a family has suffered greatly and children have endured great hardships and had limited opportunities, because of the presence of the mortgage and the necessity for scraping up every cent to pay it off.

Another disadvantage of individual ownership of houses is that it tends to promote speculation in land as, the larger the number of home owners, the larger is the field for exploiting the demand for building lots. Moreover, it is a fallacy to assume that the owner of a house has necessarily a more permanent interest in the community than a tenant on a lease of reasonable length. One of the housing disabilities in Canada is due to the fact that the greater proportion of homes, owned by workingmen, are of frame construction and a large proportion are mere shacks without proper foundations or proper sanitary conditions. In these circumstances, the danger of fire, the temporary character of the structure and, frequently, its shoddy appearance militate against the idea of permanence in the owner's mind. With proper conditions of tenancy, in a permanent building having sanitary equipment, a tenant may be a less transient and stable citizen than the owner of the small equity on a poorly constructed frame house. A well-housed tenant may be less likely to leave his house than the man who has a heavy mortgage, accompanied by the possibility of not being able to recover what he has paid, and the difficulty of meeting his payments.

These matters have to be borne in mind when we see the efforts that are made to encourage campaigns for workingmen to own their own homes. Every encouragement should be given for them to do so, but only under proper conditions. These include:

1. That the home shall be durable and wholesome and occupy a healthy site with agreeable surroundings;

2. That the owner shall not rely on borrowed money to a greater extent than 50 or 60 per cent, unless under a scheme of repayment over a long period of years to a Government body or a building society, when the amount borrowed might be 75 to 85 per cent;

3. That the system under which the home is owned will not make it difficult for him to dispose of his equity if he desires to move to another district.



GARDEN CITY TENANTS, LETCHWORTH.
Rents \$1.50 to \$2.00 weekly, including taxes, before War.



BUILT BY LETCHWORTH HOUSING SOCIETY, LTD., SHALT LANE.
Rents \$1.50 weekly, including taxes, before War.

We need to encourage ownership that is free from the dangers and difficulties of the present system and that has some of the merits, without the demerits, attached to tenancy.

The Co-partnership Tenants Society of England, which originated as a branch of the co-operative movement in that country, may be said to satisfy these conditions. It is essentially co-operative in its practical work and in its ideals. It gives every incentive to individual thrift and responsibility and yet eliminates injurious private speculation. It has developed a new form of intensive patriotism that may be described as domestic patriotism. The ideals of the most intelligent and public-spirited members of the community become a real pressure upon the consciousness of the less progressive and, in this manner, citizenship is promoted in the least objectionable and the most effective way. Its rapid and successful growth in England is evidence of its economic soundness and national value. It has also the advantage that the co-partnership system of erecting houses provides the best means of securing the application of town-planning principles to the development of suburban estates.

In Canada and the United States, whatever be the cause, we have not yet developed the practice of co-operation to the extent that it has been in England. This certainly may not be claimed as an advantage over England but, on the contrary, it is a disadvantage which we should try to overcome. Among the great lessons of the war is the importance of organization, which is but another name for well-directed co-operation. I propose to indicate how we may apply the principles of co-partnership to suit our western conditions, under the name of "Owner Partnership," which I think expresses more clearly what is called "Co-partnership" in England.

CO-OPERATION IN WESTERN COUNTRIES

It is frequently said that the absence of a spirit of co-operation in western countries is responsible for the absence of its practice. It is true that this statement is supported by the fact that there are comparatively few distributive societies with a co-operative organization on the American continent, whereas there are large numbers of successful societies in Europe. But it is erroneous to base a sweeping dictum on this fact. If we consider the nature of the combines and associations, that have been formed for the dual purpose of promoting efficiency and conserving profits, and the unparalled strength these associations have achieved in American countries, we find that, under certain conditions, the most powerful factor in industry is co-operation. It may be that the people who are co-operating effectively belong to a different class from those in the co-operative societies of England. The co-operative trusts that have built up the wealthy oil and banking interests may not be quite democratic in form or personnel but they prove the soundness of the principle of co-operation and that it can be successfully adapted to western conditions.

Unfortunately many of those who have accumulated great wealth as a result of co-operation have argued against the application of the same principle to other groups of interests, such as those of working men or salaried persons.

Given suitable conditions and opportunity for organization, there should be no difficulty in applying co-operative methods in connection with distribution, housing, etc., and of making them as successful in promoting efficiency and conserving profits as has been the case in the co-operative trusts which have so strongly entrenched themselves in these countries.



BUILT BY PUBLIC UTILITY SOCIETY AT LETCHWORTH.
Rents \$1.75 to \$2.50 per week, including taxes, before War.



COMMON VIEW LETCHWORTH. BUILT BY L. COTTAGE AND BUILDING SOCIETY.
Rents \$1.50 weekly, including taxes, before War.

Although sound, as a principle in industry, co-operation may of course be abused. It is a form of abuse when its advantages are only enjoyed by small groups.

One editorial writer, in a leading weekly journal of Canada, referring to the absence of co-operative institutions in Canada, suggests that the reason is that the worker has different opportunities from those he has in Europe. He states: "By reason of his larger earning power he has the opportunity of participating in the greatest co-operative institution of all, namely the joint stock company".

As an argument this is surely weak and the facts hardly support the alleged difference of opportunity.

The English workmen who really get the benefit of co-operation are the well-paid artisans whose standards of comfort, judged by the spending power of money and not by the amount of wages, is about equal to that in Canada. It is they and not the really poor who are the co-operators. In the co-partnership societies it is essential that a workman has a certain amount of capital of his own and a good wage before he can participate in its benefits. Nor is there any scarcity of opportunities for workmen to purchase stock in private companies in the United Kingdom. Of course, when a company makes its share capital available for purchase by its customers, then, in a sense, that is a co-operative institution and the worker can participate in the business profits, although not in the management. The point to be noted in the above quotation, however, is the recognition of the writer that the stock company is a co-operative institution.

The people who control these co-operative institutions in the interests of capital are not usually favourable to the application of the same principle when applied in the interests of the general consumer or worker. This is not a condemnation of those who are engaged in promoting trusts or joint stock companies; it is merely an argument in favour of applying the same sound business principles to the solution of the problem of living among the general body of the people.

HOUSING AND CO-OPERATION

It is freely admitted that one of the causes of dear housing is the absence of any co-operative method in producing them. Nobody, nowadays, would think of making a bicycle for himself or turning out a lock for a door by hand labour. The person who wants a cheap suit of clothes buys it ready-made. To enjoy a good standard of comfort the average family has to purchase most of its requirements in the form of standardized goods. The house, however, in which it lives is usually built as a separate unit or as one of a group erected by a small speculative builder. The result of this individualism in housing has greatly increased its cost without getting either efficiency or proper planning.

Many architects object to standardization in principle but, surely, standardized houses designed by good architects are better than many individual houses, which may be said to be not designed at all. The wise thing is to get the benefits of standardization under proper control, and by co-operation of those who are to live in the houses.

There is no reason why a co-operative enterprise should fail to have the full merit of individualism as well as its own social merits. Co-operation is not like socialism—the antithesis of individualism—it is co-operative individualism.

As already stated, the co-operative principle has worked out most successfully in what are known as the co-partnership societies in England. These societies were promoted by a group of men, headed by Mr. Henry

Vivian, M.P., as an improvement on the methods previously carried out by a society called Tenants Co-operators, Limited. It encourages individual thrift and responsibility and its rapid and successful growth is the best evidence of its economic soundness.

It is a tribute to the merit as well as an indication of the reasons for success of the co-partnership schemes that they were first promoted by a group of skilled building artisans, that is, by men who know the building trade. They were not promoted, as so many schemes have been, by a number of theorists without practical experience. The first of the co-partnership societies was the Ealing Tenants, Limited, which had its origin among a number of the members of the General Builders, Limited, who resided in Ealing. These men were not solely interested in building their own homes under a co-partnership scheme but in the general question; as stated by Mr. Vivian, of "harmonizing the interests of labour and capital by equitably distributing the profits made, and encouraging labour to acquire capital to share in its administration." The application of this laudable aim resulted in the formation of a Co-partnership Home-owning Society. We thus see that, in its origin, the fundamental idea of co-partnership had the broad application that is needed to help us to solve many of our modern problems of industrial unrest, in the conflict between capital and labour as well as in the provision of healthy houses. Its significance can only be appreciated by those who can see the benefits to be obtained from this broad application of a social idea and who have the understanding of social problems which makes them see that without co-partnership we are likely to have forms of social organization which are not so sound in principle and are likely to be hurtful in application.

One of the first statements made, regarding the co-operative movement in relation to housing, was that it represented an effort "to ensure that success on a sound commercial basis should go hand in hand with education and social life. The result is a society which is on its commercial side a partnership of capital and tenants".

The first difficulty then, as it would be now, was to obtain the interest of sympathetic people of means to provide the nucleus of capital necessary to start the enterprise. The men who were likely to become partner-owners with naturally insufficient means to carry out the whole enterprise, were required to invest a small sum to begin with and gradually to increase it, but the balance had to be provided, either by wealthy people interested in housing or by industrial firms who wished to assist in providing housing accommodation for their workers.

It is an essential part of the scheme that the money invested by the capitalist shall carry a restricted dividend and that any balance of profit made for the investor, over and above what is necessary to pay a moderate rate of interest, shall be used for the improvement of the property or the reduction of the contribution made by the partner-owner of the house. On the other hand it is essential that the partner-owner shall maintain the property in good condition, that he shall gradually increase his investment in the property over and above what he pays in the form of rent and that any profit that accrues to him on his own investment shall be capitalised as accumulated stock in the society.

THE OBJECTS AND ADVANTAGES OF PARTNER-OWNERSHIP SOCIETIES

The objects of partner-ownership societies have been frequently described. They may be gathered from the following explanation of the methods of the societies and of the advantages that accrue from their operation. Their methods are described by Mr. Vivian as follows:

"To acquire or erect substantially-built houses, provided with good sanitary and other arrangements for the convenience of tenants.

To let the society's houses at ordinary rents, to pay a moderate rate of interest on capital, and to divide the surplus profits (after providing for expenses, repairs, depreciation, etc.) among the tenant members, in proportion to the rents paid by them.

Each tenant member's share of profits is credited to him in shares instead of being paid in cash."

The advantages may be summarized as follows:

1. *To the tenant owner:*

(a) He is entitled out of the profits to receive a dividend on rent paid by him.

(b) He gets a house at a rental, which, according to past experience, is not higher than paid for elsewhere.

(c) He has encouragement to thrift by the fact that he can invest in the society of which he is tenant-owner, at five, six or seven per cent, as the case may be, any savings he finds it possible to make out of his earnings.

(d) Should the enterprise be successfully managed and the sites appreciate in value, he will get the benefit either by way of a dividend on his rent, or by paying a rental which is below the market value.

(e) He will secure all the surplus profit after the fixed charges have been met.

(f) He will get a social atmosphere, and share in common the civic life, which has been proved to be of great value.

(g) He will enjoy security of tenure, while remaining a tenant who has freedom to move without serious loss, which it is difficult for him to have as an owner.

(h) As a partner, sharing collective responsibility with others, he can obtain capital at a much cheaper rate than by getting it individually, and he can gradually relieve himself of dependence on outside capital by accumulating stock to the value of his property.

2. *To the capitalist:*

(a) The greater the surplus profits derived from the enterprise, the greater the security for the regular payment of interest on the capital. The success of the enterprise in creating surplus profits depends primarily on the partner-owners, as it is these owners who are most directly interested in making the surplus profits. For instance, if they take care of their property they will be helping to accumulate profits for themselves; if they help to find new members for the Society and new capital, and if they take an interest in seeing that the character of the members is of the best, they will be promoting their own interests. Experience in connection with Societies has confirmed the statement that partner-owners look after their property better than tenants, and in many respects, owing to the friendly rivalry of members of Societies, better than owners.

(b) As the partner-owner is required to accumulate stock in the Society, he gradually builds up a fund upon which the Society can, if necessary, draw in order to pay any arrears of rent. It is thus possible to prevent such arrears.

(c) Wealthy citizens who desire to assist in solving the housing problem, but who are opposed to methods which are commercially unsound, have an opportunity of benefitting their country by investing in partner-ownership societies.

(d) Corporations and heads of industries who desire to obtain healthy housing conditions for their workers cannot secure them in any satisfactory way either by building houses themselves and letting them

to tenants, or by having their workers build their own homes. Although there are exceptional cases in which both have been successfully done, as a rule, the method that is best suited to give the worker a healthy home, security of tenure and freedom to move without undue embarrassment is a co-operative building society. Thus the investment of money in such a society, apart from the reasonable return of capital, should be of great benefit to employers of labour.

One of the general benefits to be derived from these societies is that the best skill can be employed to design, to standardise and to group the dwellings, as well as to plan the lay-out of the ground to much better advantage than can be done by individuals. Too much emphasis cannot be placed either on this general advantage or on the opportunity that co-partnership communities have for developing a social life that has proved in experience to be one of the chief magnets that holds these communities together.

It is to be feared that one of the causes of scepticism about co-operative societies in relation to building is that it suggests something in the nature of artificial community organization. America is the cemetery of dead hopes of social communists. There is nothing, however, in the co-partnership organizations' lacking permanence and stability. Their commercial soundness is a first consideration and their social advantages are incidental to that soundness.

In western countries it may be necessary to meet the demand for ownership by altering the rules and methods of the co-partnership societies formed in Europe. This can easily be done, and a suggestion will be made later as to how it can be done. It will probably be found, however, that in practice the partner-owners will be satisfied with their position as partners.

The process of co-partnership is described as follows by Mr. Henry Vivian:

"It will be seen that the division of risks is a varying one as between the non-tenant shareholders and the tenant shareholders. The proportion of non-tenant shareholder's capital is large to begin with, declining as the tenant shareholders' proportion grows.

In some societies arrangements are made for an automatic division of power corresponding to the division of risks, but it was thought in this case that the judgment of both groups of shareholders could be trusted not to press their claim to control beyond what was reasonable. In practice there are seven tenant shareholders on the Board out of eleven. Of course, this does not correspond to the division of capital, but the non-tenant shareholder has not yet formally asked for further power on the Management Committee and, if he is content with the position, no one else need complain. It is certain that the tenant shareholders will be quite ready to meet all the reasonable wishes of the outside shareholder on this matter".

Since the adoption of the co-partnership system does not involve the entire overthrow of individual home-ownership on the part of the members, it is no reason to advance as a criticism of partner-ownership that the people in this country prefer to own their own homes. If they do, the rules of the society can be adjusted to suit such cases. The co-partnership method is better, however, for a man who merely means to buy his house through such a society, rather than in the open market, unless he has ample means to do so without borrowing or mortgaging.

Assuming, then, that a number of people in Canada or the United States decide to form a partner-ownership society and thereby combine to build, own and occupy a number of houses—the profits from the rents of which will in time buy out the holdings of those who provide

the capital as shareholders, leaving the partner-owners independent of outside capital; and assuming further that the rules of such a society are so framed as to admit of the sale of individual houses on partner-ownership estates under proper safeguards, the important question is how should they proceed.

Certain preliminary principles should be kept in mind. These are:

(1) A society should not be formed by capitalists without taking representatives of prospective home owners into consultation and securing their confidence. In other words, the scheme should not be imposed upon them and they should be made to share in the responsibility of its organization.

(2) A society should not be formed unless there is a prospective paid-up capital of \$200,000 in sight to provide for the building of at least fifty houses. If this capital is available, the partner-owners should provide at least 10 per cent (\$20,000) and a sufficient number should be obtained, whose united capital equals this sum, to start the scheme. This will mean about fifty partner-owners with \$400 each. Of the remaining \$180,000, as large a proportion as possible should be obtained from a public authority at 5 per cent interest at the most.

In England, before the war, from two-thirds to three-quarters of the whole capital was obtained from the central government at $3\frac{1}{2}$ per cent and, now, about 90 per cent can be obtained from the same source on payment of 5 per cent interest. In Canada, the cities of Ontario, Quebec, New Brunswick and Nova Scotia can guarantee the bonds of such societies up to 85 per cent on a payment of 6 per cent interest, which would leave only 15 per cent to be raised jointly by outside investors and partner-owners.

(3) Failure to obtain the financial support indicated in (2) may in exceptional cases be a reason for forming a society. The need for housing may be so great and the prospects so good that the risk of starting on a smaller capital may be taken.

(4) The co-partnership scheme should, if it is to be a success, include the provision of a community hall or club and recreation spaces. The land should be planned so as to permit of the proper grouping of dwellings, which is as important as having them designed by competent architects. The sites should not be in too close proximity to the place of employment. If possible, the society should not be formed among the workers of one industry only and, where the head of an industry desires to promote a housing scheme, he should obtain the co-operation of other capitalists, so as to free the scheme from the appearance of a one-industry enterprise. If it has to be promoted for the workers in one industry it will be all the more important that the workers have a considerable voice in the affairs of the enterprise and be shown that they are not having it forced upon them from the outside, thereby encouraging a suspicion on their part that there are ulterior motives.

(5) An effort should be made to encourage the membership of persons who want comparatively large houses, so as not to restrict the community too much to one class. The chief difficulty that may have to be encountered in starting a society is lack of initiative on the part of the wage-earners themselves and, probably, the lack of sufficient capital to take even a small share in starting the enterprise. With regard to the former there must be some consideration given to the need for providing initiative on the part of those who are prepared to lead, under the idea of democracy which has been expressed by Mazzini, as "The progress of all, through all, under the leadership of the best and wisest."—T. A.

VOLUNTARY NOTIFICATION OF PREGNANCY

In a short but interesting paper presented to the Royal Society of Medicine by Dr. S. G. Moore, of Huddersfield, England, attention is directed to the subject of maternity in a most practical manner. The question, he quite properly claims, is of national importance, and should not be dealt with as a mere local condition.

The reproduction of the race is a physiological—not a pathological—process, and should be dealt with from this standpoint. That many deaths and much suffering could be prevented is admitted and, further, it is claimed that it is possible to overcome the unwillingness to bear children due “to the fear among women of distress and suffering and the risk of death.”

That the doctor is fully alive to the important bearing which early care of the pregnant mother has upon the infant and maternal birth rates is evident from the practical way he has dealt with the question of notification of pregnancy in Huddersfield, a municipality which has for years been most active in all that relates to infant welfare.

“A voluntary system of notification of pregnancy has been in operation in Huddersfield since January 1, 1916. A fee of 2s-6d (sixty cents) is paid to doctor or midwife (not to others) for each notification, subject to the consent of the woman having been obtained beforehand. Each case is visited by a duly qualified and legally registered medical practitioner. No treatment is undertaken. Suitable cases are referred to the family doctor. Material aid is obtained from philanthropic persons or organizations whenever necessary.”

The foregoing is the doctor's own description of the Huddersfield system. The figures for the period January 1 to October 3, 1916, show that, during ten months, 156 pregnancies were notified, or slightly over 10 per cent of the notified births for the same period.

Of the 156 pregnancies, 8 were notified by doctors and 148 by midwives. The number of complicated pregnancies was 26.

One instance is quite sufficient to justify the continuation of the practice of notification in Huddersfield and its extension generally.

It is that of “S. M., notified under pregnancy scheme by midwife, February 2, 1916. Condition: Marked œdema of feet and legs; headache past fortnight; eyesight defective; occasional dizziness; vomiting of pregnancy troublesome. Advice: Doctor to be called in at once. February 10: Under doctor; better. March 31: Confined; healthy, full-time child; placenta adherent. April 11: Mother up, anæmic; child well, breast-fed. July 10: Mother and child well.” The doctor and Huddersfield are to be congratulated even if there were no other good results to show than the saving of the lives of S. M. and baby S.M., not merely to their own town but to the nation. That other lives were saved by this policy, which cost less than \$100, we feel assured. Such a result should be an example and a stimulus to all—and while commending the scheme to Canada we cannot do better than quote the closing statements of Dr. Moore's short practical and excellent paper and point out its applicability to this Dominion.

“The position is rapidly approaching when the population of this country will commence to decline. But German, Austrian and Turkish nations, as well as others, are more prolific and, in the absence of war, pestilence and famine, increase prodigiously. If it be our desire and intention to prevent our descendants becoming slaves, then we must seriously take steps to prevent loss of life in every direction. No doubt these statements are familiar to all, but I think that they cannot be repeated too frequently.

The mother dying in childbed presents not only her own sad case, but from the national point of view—and I hope that no other will be considered—the surviving members of her family are rendered less efficient, they have less chance of surviving, and she has ceased to be a source, a fount and origin of defenders of the Homeland.”

HOUSE FARMING

Canadian cities are full of examples of the one-family dwelling being occupied by two or more families. There are many reasons for this, which it is not the present purpose to discuss, but the practice is associated with evils which it is quite apparent are on the increase and require to be met by some form of control.

A few instances will more fully explain the situation. In West Toronto a landlord let a house for a number of years to a woman for \$15 a month and later found she had sublet a few rooms for \$20 a month. The report of Dr. Douglas, M.O.H. for Winnipeg, for the year 1918, contains the following, among several, examples of “house farming”.

“A dwelling of twenty rooms, two storeys and attic, was found occupied by ten families and four roomers. Six of the families had only one room each for cooking and sleeping. There were six gas, an oil and three electric stoves, mostly in rooms used as bedrooms. There were two water-closets, a sink, a bath and a washbasin, for the use of all, but one of the water-closets was in the cellar. One room of 600 cubic feet was occupied by a man, woman and two children. None of the upper sashes of the windows were made to open, and all the storm sashes were fixed except in two rooms. The premises were evidently designed for use as a boarding or rooming house. The rent paid by the lessee was \$45 per month, and that received from the subtenants \$115 per month; thus the lessee lived rent free and in addition made a profit of \$70 per month.”

That the evil is a large and growing one may be seen from the fact that, when a tenant paying \$15 a month rent for a house, who sublet it to obtain \$90 per month, was remonstrated with, he had the effrontery to inform the authorities that he had leased three other houses for the same purpose. Another “house-farmer” was making \$201 a month on a large tenement which violated 16 clauses of the building by-law.

It is essential that the municipal authorities take effective steps to prevent overcrowding. This is necessary for the protection of all classes. Many co-called apartment houses are not *bona fide*. Supervision should extend to all houses irrespective of their rent value or whether owned or rented by the occupier.

In overcrowded tenements there are nearly always to be found cases of families occupying one room in which the man, wife and children eat and sleep and where the cooking and other domestic work is carried on, in a vitiated atmosphere which is the acme of all that makes for disease and physical inefficiency. There is never adequate provision of water-closets, sinks or baths, and, as a rule, the windows are religiously fastened down, while the interior passages and stairways—the no man’s land of the house—are dirty and the building bears every evidence of dilapidation and decay.

Those who cannot afford a one-family house should have clean healthy rooms, with the essential conveniences of sink and water-closet, and the rent should not be increased by the greed of the “house-farmer” who lives in a cellar.

This sub-letting of portions of a house is one of the worst forms of profiteering, and the health departments of every city should follow

the example of Winnipeg and serve closing orders on these places. Unfortunately, lack of an adequate staff is a handicap in many cases. This is a condition for an aroused public opinion to rectify.

TUBERCULOSIS WORK IN BIRMINGHAM

The treatment of tuberculosis patients of the city of Birmingham is a marked feature of health work.

An anti-tuberculosis centre or dispensary is open in the evenings as well as by day, where examinations are carried out and instructions given in dietary, ventilation, sputum collection, disinfection and occupation; then there is a series of hospitals and sanatoria adapted to different classes of patients and different stages of the disease, where treatment is given comprising hygienic and dietetic regulation, graduated rest and work, the employment of appropriate drugs, when indicated, and of the various tuberculin.

"There is domiciliary visitation when that is desirable. There is constant vigilance in the detection of infected milk and in the testing of cows, as a step towards the ultimate eradication of tuberculosis from dairy herds. The fight with the tubercle bacillus is begun at the earliest possible moment, and is continued uninterruptedly, and there is no strategic point of vantage that is not occupied. It was observed that patients with much dental caries could not masticate their food properly, and so suffered from digestive troubles, interfering with nutrition, and that patients with gum-sepsis or pyorrhoea were constantly producing poison, which, when absorbed, may injuriously affect the diseased lung, and so a dental department that has done excellent work was established in connection with the anti-tuberculosis centre. It was found that there was a difficulty in providing varied, useful, healthy and remunerative occupation for patients in whom the disease has become quiescent, and so gardens for the growing and drying of medicinal herbs and plants for seed purposes have been formed to supplement agriculture and arboriculture at Yardley-road sanatorium. It was reported that the treatment of tuberculosis by sun-baths was beneficial, and a regulated course of sun treatment has been tried at Satterly Grange sanatorium with most encouraging results."*

To complete this excellent system, Birmingham is instituting open-air school treatment for delicate children and contemplates the founding of a fur farm or labour colonies, in which a livelihood can be earned under hygienic conditions by men and women who require treatment spread over a long period of years. Any one knowing the earnestness with which health matters are pursued in this city will realize it will not be long before the anti-tuberculosis armament will be completed.

THE CINEMA AND PUBLIC HEALTH

At the recent annual conference of cinema proprietors in Great Britain, Dr. Chalmers, M.O.H., Glasgow, was invited to speak before what is recognized as an important factor in national life.

The large and ever-increasing number of persons who attend cinema theatres must not be lost sight of, and particularly is this true of the younger people in every city and town. It is important, therefore, that the buildings themselves should be suitable from a health standpoint and that the films should be of an educative character as well as for amusement.

**Municipal Engineering and the Sanitary Record*, August 21, 1919.

Dr. Chalmers, in his address, endeavoured to convince the proprietors of the absolute necessity of cleanliness and thorough ventilation of the halls or theatres, and suggested longer intervals between sessions, during which there should be a complete flushing of the interior of the buildings with both fresh air and sunlight.

He strongly advocated the making of films which would visualize how infectious diseases may be spread. If people could see how the dispensary helped to discover early cases of tuberculosis among persons in contact with infectives, the work done by the sanatoria and various other agencies, such as the preventorium and farm colony, and how effective preventive measures were, generally, in arresting its progress, there would be far less prejudice against the work undertaken by health authorities. He stated that, "as the essence of instruction lies in the power to present to the observer the operation of functions he is himself conscious of possessing or acquiring, so for educational purposes the film should aim at more than depicting results. It should endeavour to show how the results are reached."

The use of the film for health education offers a great field which could very profitably be made use of in Canada.—*C. A. H.*

FRENCH LEGISLATION FOR EXPECTANT MOTHERS

Consequent on the marked decline of their birth-rate, the French people have been making a great effort to save the babies.

The "Loi Strauss" came into force in the month of June, 1913, but it has been modified by the Act of December, 1917, and has for its object the securing of a time of rest to women during the latter part of pregnancy and the beginning of the nursing period.

This law makes three wise provisions:

(1) The pregnant woman has the right to leave her work at any time during pregnancy without having to pay an indemnity for breach of contract.

(2) Employers are forbidden to employ a woman during the first four weeks following confinement.

(3) Every woman without sufficient means of support has the right to an allowance during the four weeks preceding and the four weeks following her confinement.

The applicant must be a French woman and must have no other sources of income than her own wages. The form of claim must be sent to the Mayor of the Commune and, accompanying the request, there must be a medical certificate stating that she cannot continue working without risk to herself and her child. The claim is usually made during the seventh month.

Upon receipt of this request, the "Bureau de bienfaisance" makes all due inquiry and, according to the information obtained, the assistance is either granted or refused.

The grant during pregnancy varies from 50 centimes to 1.50 francs a day, the municipal council fixing the sum between these two figures. In Paris, the grant is the maximum amount with 25 centimes added by the Council.

After confinement, the grant is the same, except that where the mother breast-feeds her child, she receives an additional sum of 50 centimes. If, however, the woman is in hospital, the allowance is reduced by half, provided she has no other child under the age of thirteen years.

The funds to meet this charge are provided by the town, the department and the state in varying proportions, the proportions in Paris being about half by the department and state and half by the city.

It is required that a woman in receipt of the grant must remain at rest, giving up her regular employment and taking as much rest as her ordinary domestic duties will permit. Failure to conform with these regulations forfeits the allowance. The inspection of the mothers is performed by women visitors, whose duty it is to give all necessary instructions in hygiene.

With the object of still further assisting the working mother, the French Chamber enacted a law in August, 1917, whereby in every commercial and industrial establishment a woman nursing her infant has the right, for the period of one year, to spend an hour daily in attending to her child, the time being taken in two half-hour periods.

The adoption of these very wise measures by the Government cannot fail to prove of benefit to both mother and child, as they are common sense and practical.—*C. A. H.*

NEW ZEALAND REPORT ON INFLUENZA

The following extract from the Report of the Royal Commission of New Zealand on the Influenza Epidemic very aptly applies to Canada, Indeed, one might almost believe it was written on Canadian conditions.

HOUSING AND SANITATION

From our inspections and the evidence submitted, we are confident that considerable improvements are required in respect to conditions in which large numbers of people in our cities are required to live. It was most evident that the bad conditions existing were due to an inheritance of wrong subdivisions of land; the continued habitation of old, dilapidated, worm-eaten, vermin-infested, and, in some instances, really rotten structures; the economic factors of short supply of decent houses, and excessively high rents, and the personal habits of uncleanness of a proportion of the tenants. Whilst the borough councils appear to give very full attention to the general sanitary requirements, there is no doubt that, in all centres, groups of houses and, in some places, nearly whole streets stand as a constant menace to public health, in that the houses are quite unsuitable for habitation, with proper regard to the health, particularly of the women and children.

It is admitted by the Commissioner that though more demolition should be done, the chief obstacle is the rehousing of the displaced tenants, and the municipalities have hitherto done "practically nothing" in the way of carrying out large improvement schemes.

The Commission says, "We urge most strongly that there is need for the closest combination between the General Government and the local authorities towards the institution of completely national plans for dealing promptly with this most serious national and municipal problem As the general health of our people is undoubtedly the Dominion's greatest asset, reform of existing bad conditions should be entered upon, even if the initial financial cost is great, as the added efficiency of a completely healthy people would replace the expenditure entailed in carrying out the much-delayed schemes of reconstruction.

A PLEA FOR CLEAN LIVING

An item, quite applicable to Canada, and which contains much food for thought and wise counsel for action, is found in the presidential

address of the Lady Mayoress of Newcastle, delivered before the section of the Royal Sanitary Institution on "Personal and Domestic Hygiene".

It was a deplorable fact that our slums were as grimy as ever, and, notwithstanding the higher wages which had been paid to munition workers during the war and the consideration extended by way of unemployment donations, the condition of our poor did not seem to have improved. They had yet to find the large town where it was impossible to meet poverty-stricken women and neglected children, and the question arose, "Why should this thing be? Were we short of water and soap, or was it that the people did not care?" Military discipline had taught men of all classes the importance of cleanliness. In passing through the workshops of Tyneside at the present time it was usually an easy task to distinguish the demobilized soldier. Sound common-sense, combined with knowledge and authority, must solve the problem. It was imperative that the teaching of personal cleanliness be thorough. Speaking, as she was, to her own sex, she said women and girls of all classes must be taught the necessity of personal cleanliness, sensible clothing and, as far as possible, open-air life. More washing, less powder and paint, more fresh air, but better protected bodies, would do much to improve the stamina of the mothers, past and future. In the interest of coming generations, too, it was obvious that all possible teaching on the subject should be given in the schools. As a "home bird", she pleaded for the homes of England. There was the necessity for thoughtful reconstruction in housing, and more sunshine, better ventilation, labour-saving devices, and the simplest of up-to-date drains must tend towards healthier homes.

PROPOSED BRITISH LEGISLATION FOR THE CHILD OF THE UNMARRIED MOTHER

As the legal position of the unmarried mother and her child is worse in England than in any other country in Europe, several societies interested have combined their forces for the purpose of obtaining legislation.

The principal provisions of the draft Bill are: that every illegitimate child should be made a ward of court; that the mother, on notifying the birth of the child, should name to the registrar the man alleged to be the father.

The registrar would then communicate with the clerk of the court, and a notice would be served on the putative father, inviting him to call upon the collecting office. If he admits paternity, the child will be registered in the name of the father, as well as that of the mother.

In respect to this proposed legislation, Mr. Parr, in his recent speech at the Kingsway Hall, London, said that, in his opinion, "the passing of such bill would do more than anything else to educate public opinion in the matter."

As indicating the views of the Local Government Board on the question of the maintenance of the illegitimate infant, the following statement recently sent to the Ilford District Council, is of interest:

"In the Board's view it is important for the health and welfare both of the mother and the child that the child should be kept with the mother if practicable, and the Board would be glad to know whether the child could be kept with the mother at home in this case instead of being placed with a foster-mother, if the Council contributed to its support."—C.A.H.

TIMELY INSTRUCTIONS TO TENANTS OF APARTMENTS

1. Keep your own rooms clean.
2. Do not throw garbage, ashes or waste material of any kind into the hallways, bathrooms, water closets, or on the stairs.
3. Put your garbage, ashes and waste into the cans provided for such materials. Metal receptacles with covers are to be preferred to boxes or barrels.
4. If your garbage, ashes or rubbish are not taken away regularly, notify the proper civic authorities forthwith.
5. Be careful when using water closets, bathrooms and sinks and keep them clean. See that your children are careful also.
6. Let plenty of light and air into your rooms. Keep your windows clean and open.
7. Do not overcrowd your rooms.
8. Keep your kitchen clean; remove all waste material at once.
9. Keep your refrigerators and all pots, pans and dishes used in preparing and serving food, clean.
10. Put nothing on your fire escape.
11. If you think your landlord or your neighbour do not do their part to keep the premises in good order, talk to them about it.
12. If you do not get satisfaction there, report the matter to your Health Department.

SCIENTIFIC LIGHTING AND INDUSTRIAL EFFICIENCY

Scientific lighting is something to which more attention should be paid in home, office and workshop, particularly in this northern region where we all suffer from the dull uncertain daylight in winter and the bad application of artificial light to our desk or work bench.

It is not sufficient to flood stores or factories with glaring lights; such excessive illumination is, rather, wasteful and unhealthy. The use of electricity has lessened the dangers to health, but they have not by any means been eliminated by its use. What we suffer from to-day is not lack of light but poor arrangement of it. If it is important for efficiency in industry that expensive machinery be installed, it is equally important from the standpoint of increase of output that the lighting conditions should be suited to each individual, machine, and class of work. Every employer should realize that good lighting is justified on economic as well as on humanitarian grounds.

In the United States, at the present time, at least five of the states have adopted legislative codes on industrial lighting. Many examples have been given where, as a result of improved lighting conditions, increases in output of over 8 per cent have been achieved, while there has been a reduction in the amount of spoiled work.

HEALTH OF WOMEN IN INDUSTRY

During the pressure of war work in Great Britain the number of women employed was not only greatly increased but they were substituted for men in what was formerly considered men's work. The restriction in respect to hours was removed—overtime being general at the beginning of the war and night shifts being usual throughout.

The wages increased to subsistence level in almost all classes of work and were in excess of this in some. The result of these changes on the health of the women has been summed up as follows:

(1) That there is a definite burden of fatigue which, though relatively small in amount as regards severe fatigue, is considerable as regards that of a less severe character.

(2) That the fatigue and ill-health are less than might have been anticipated, having regard to the hours of work and the nature of the employment, and that this is due, broadly speaking, to the greatly improved attention to the health and welfare of the workers.

(3) That fatigue and sickness are greatest where heavy work is combined with long hours at the factory and associated with onerous domestic duties after factory hours.

(4) That, unless brought under control, the considerable amount of moderate weariness and ill-health now present is likely to reduce immediate efficiency, and also exercise, in many cases, an injurious effect on subsequent health and on capacity for maternity.

The comment of Dr. Janet Campbell on these findings is most interesting as showing the possibilities of women as workers in spheres of labour hitherto unoccupied by them, particularly as many witnesses before the War Cabinet Committee urged the abolition of all special legislation for women after the war, as they considered that women should not be prevented on physical grounds from entering any trades open to men (unless sex injury could be proved) or from working similar hours to men, or from engaging in night work.

Dr. Campbell says: "The fact that the women were able to stand the work as well as they did was attributed (a) to good wages, enabling them to feed and clothe themselves properly; (b) to healthy conditions in the factories; and (c) to welfare and health supervision, including the provision of protective clothing, canteens, rest-rooms, surgeries and medical advice. It may confidently be asserted that if similar demands had been made upon women working under pre-war factory conditions they could not have been met to the same extent, if, indeed, they were met at all, without causing an immensely greater amount of fatigue and permanent injury to the health of women and girl workers. As it was, most women enjoyed the more interesting, active and arduous occupations, and in many cases their health improved rather than deteriorated. Medical officers of factories and welfare supervisors have pointed out the beneficial effects of open-air conditions (yard work, trucking in filling factories, etc.) on the general health, and the success with which properly selected women have undertaken work involving the lifting of weights, heavy machine work, and even forge and foundry work, without untoward physical consequences. The whole experience tends to show that light sedentary work is not by any means always the most suitable for women, that operations involving a change of posture are preferable, and that, given adequate nutrition, many women would have better health and greater physical vigour if they followed more active occupations."

The opinion of the women factory inspectors was that there should be a re-imposition of some restrictions on women's labour and that the present Factory Act needed revision.

It was the generally accepted opinion that a 44-hour week, with a Saturday half-holiday, was advisable for women, as shorter hours would result in better time-keeping, especially where married women

are concerned, and that in most trades and processes output would not suffer and might even improve.

As regards night work, there was a general condemnation of it, as being particularly harmful to women with domestic responsibilities, and most injurious to girls of 14 to 16 years of age and to women between 30 and 40.

Medical supervision under ward conditions has emphasized the need for more effective oversight and for active research into the causes of industrial fatigue and the preventing of diseases due either directly or indirectly to occupation. There ought to be an adequate service of sanitarians, to oversee the hygiene of factories.

The duties of such officials would comprise the supervision of:

(a) the general hygiene of the factory, including sanitation, ventilation, lighting, heating, etc.; (b) the particular hygiene of processes likely to involve hazard, discomfort, or injury to workers; (c) the maintenance of surgeries, first-aid equipment, rest-rooms, etc.; and (d) the general health and welfare of the workers, men, women, and young people, with particular regard to the conditions under which women and young people are employed. Further, it should be the duty of the factory doctors to investigate and report upon any trades, processes, or forms of work which appear to lead to general or specific ill-health or to shorten unduly the lives of workers employed therein. They should act in an advisory capacity only, and should not undertake the treatment of disease in any form.

Along with an adequate service of factory medical inspection must be associated that of the welfare service in each individual factory which is responsible to the factory management and partly occupied in carrying out recommendations made by the medical officer in regard to the health of the workers.

HOUSING OF THE POOR

In a paper presented before the Newcastle Congress of the Royal Sanitary Institute, Mr. C. S. Errington, F.R.I.B.A., said in respect to this important question:

The only method of dealing satisfactorily with large areas of slum property was its entire removal and rebuilding on good substantial lines, care being taken that proper consideration was given to all sanitary and hygienic matters. Just at the moment it has become the fashion to taboo flats or tenements, chiefly, he thought, because many of those in existence had not been conceived in the right spirit or on the right lines, but he was convinced that this type, if properly conceived, with a proper regard for environment, amenity and convenience, was one which would appeal in the near future to housing reformers. One of the first considerations in developing a slum area and in connection with the lay-out would be the setting apart of some proportion of the space hitherto given up to front and back streets and back yards, in order to provide suitable open spaces, where the children could play in comparative safety and where their parents might find recreation and enjoy fresh air in their leisure. No habitable room should be so conceived that it did not receive what sunshine there was at some time of the day, and it would be found that frontages facing east and west would give the best results in the most economical way. The type of tenement dwelling for which he had the

most admiration was that with open balconies, for access to the upper tenements, approached by a staircase with one open end. By this means the entrance doors all communicated direct with the open air, and ensured thorough ventilation in the dwellings, when the door was open, in combination with the open windows on the opposite frontage. Six tenements on each floor were probably as many as should be attempted. It was essential that the living-room should be of good size and proportions, but he considered that the area might increase with the larger number of bedrooms provided.

DISINFECTION OF SHAVING BRUSHES

The attention of the public generally, and particularly of druggists and barbers, is called to the fact that cases of anthrax due to infected shaving brushes have been reported as having occurred in the United States.

As, undoubtedly, there are shaving brushes in trade channels made from contaminated material the Canadian public are warned of this danger.

It would be a very wise procedure on the part of every purchaser of a new shaving brush to disinfect it. The process is as follows:

Soak the brush for four hours in a 10 per cent solution of formalin (a 40 per cent solution of formaldehyde). The solution should be kept at a temperature of 110 degrees Fahrenheit and the brush so agitated as to bring the solution into contact with all hair and bristles.

This warning is worth heeding.—C.A.H.

HEALTH ADMINISTRATION IN OHIO

The feeling of the people of the state of Ohio in regard to health work generally and their desire for better things, are indicated by House Bill No. 211, approved by the Governor on May 19 last.

The bill is not all that can be desired, but it is an advance and bespeaks a higher public standard on this important question which, if it is efficiently carried out, is of good augury for the physical and moral life of the people. It must ever be remembered that laws, however well worded, are worthless unless the general public accept them and comply therewith, and the authorities responsible for their enforcement perform their duties efficiently.

The old order of things as regards local boards of health is to a certain extent abolished. Cities of 25,000 inhabitants and over and urban districts of less than this size, together with townships, have been organized into health districts. But it is only under conditions approved of by the State Department of Health that municipalities of less than 25,000 population are permitted to continue to carry on as separate municipal health districts, and provision for the cancellation of this privilege is at the option of the State Department.

The method of selecting the organization for the control of health work in a municipal health district is somewhat novel to Canadians. The mayor of each municipality constituting the health district and the chairman of the trustees of each township in a general health district meet at the county town and organize as the "district advisory council", which council in turn selects and appoints the district Board of Health, and so on from year to year. The personnel of this board is limited as regards the standing in the community of the members:

"One shall be a farmer, two shall be physicians and one shall be an attorney-at-law". From experience in this country, better representative ratepayers might often be secured from the ranks of the men and women, who do not follow any of the professions nor guide the plough.

Perhaps the outstanding feature of the Ohio law is the employment of an all-time district health commissioner, one who, to use the words of the Act, "shall give his entire time to the duties of his office and shall not engage in any other business". He is charged with the enforcement of all sanitary laws and regulations and generally discharges the duties of a health officer.

This officer must be selected from the eligible list of the State civil service commission, and he cannot be removed without good cause.

There is ample provision in the act for the further consolidating of municipal and general health districts, also for the union of general health districts, and the arrangement of proportional payment of expenses. A board is given power to make adequate provision for the sanitary administration of any municipalities forming part thereof, the designation of deputy health officers, public health nurses, inspectors and such other officials as may be required.

As further indicating the comprehensiveness of this Act, it is provided that, in addition to the present health duties, the Board must study and record the prevalence of disease, provide for the diagnosis and control of communicable diseases, for the medical and dental supervision of school children, for the free treatment of venereal diseases, the inspection of schools, public institutions, jails, workhouses, children's homes, infirmaries and other charitable, benevolent, correctional and penal institutions; the inspection of dairies, stores, restaurants, hotels and other places where food is manufactured, handled, stored, sold or offered for sale, and for the medical inspection of persons employed therein, the inspection and abatement of nuisances dangerous to public health and, to be all comprehensive, "to take all steps necessary to protect the public health and to prevent disease".

The foregoing powers are worthy of careful consideration by such provincial governments as at the present time carry on similar work which is not considered under the provincial health department.

The financial assistance given to general and municipal health districts, which employ a whole-time health commissioner, health nurse and clerk, is a sum, payable semi-annually, equal to one-half of the amount paid by the district, such sum not to exceed one thousand dollars.

Here is an example of the state giving financial assistance with the object of securing efficiency in the health conditions of all within the state. The State government can by these means control and direct the whole work in Ohio through its State Commission of Health.

This brief review would be most incomplete if we failed to make reference to the means adopted for the assessing of rates and collection of money necessary to carry on the work.

On or before August 1st of each year, the board of the general health district prepares its estimate for the fiscal year beginning the ensuing January 1st; this is submitted, on the second Monday in September, to the district advisory council, which fixes the aggregate amount, which may not be in excess of the sum estimated by the district board. This total is then apportioned by the county auditor among the several municipalities on the basis of population, after deducting the amount due from the state treasurer. The payment is eventually made semi-annually, the county auditor certifying to each municipal officer the proportion due for his municipality. The amounts raised are set apart as a "District health fund".

In cases where municipalities fail or refuse to establish a board of health, the power is vested in the State Commissioner to appoint a health commissioner therefor, fixing his salary and term of office, and all the necessary expenses incurred by him in performing the duties of his office must be paid by the municipality.

The touch of humanity is given in Sec. 4410 of the General Code, which states that the board of health *shall* care for the sick, poor and each quarantined person unable to pay for care and treatment, thus removing these duties from the list of options.—*C.A.H.*

REGULATING CHILD LABOUR IN GREAT BRITAIN

Under the terms of the education act recently passed into law, it is provided that, from January 1, 1920, no street trading by children under 14 will be permitted; no children between 12 and 14 years of age may be employed for more than two hours on Sunday, or before 6 a.m., or after 8 p.m., or before the close of school on week days. No children under 12 may be employed except by parents.

With a view to enforcing the foregoing, the Home Office is requesting local authorities to register children and employers, particular attention to be given to such trades as milk and newspapers. They are further asked to prohibit entirely the employment of children in occupations liable to be harmful, or to insist on medical certificates of fitness for any so employed.

During school terms, children should have half a day for games or scout work on Saturdays, and it is suggested that no child between the age of 12 and 14 should be employed for more than five hours on any day.

Local authorities willing to permit morning work will be required to satisfy the Home Office that full inquiry has been made as to the conditions of employment, but work before school may not exceed one hour or commence before 7. a.m.—*U.S. Consular Report.*

NUMBER OF DWELLINGS IN NEW ZEALAND

The New Zealand Government statistics relating to the census of 1916 have just been given out to the public. In classifying dwellings by number of rooms the figures show that out of 229,423 private dwellings in New Zealand, 9,000 had one room, 8,380 two rooms, 10,500 three rooms, 49,000 four rooms, 58,000 five rooms, 50,000 six rooms, 22,000 seven rooms, and 10,800 eight rooms. The country districts would account for most of the small houses.

The overwhelming predominance of wood in the construction of dwellings in New Zealand is shown by the fact that 219,000 were constructed of wood, 7,000 of brick, 1,280 of stone, and 1,680 of concrete. In many counties there was not a single dwelling built of brick or stone, but these districts were in the back-blocks of New Zealand, where there are but few houses.

Of the total dwellings and tenements 109,000 are being rented, 12,000 bought on time payment, 55,000 bought on mortgage, and 56,860 the unencumbered property of the occupants. In the Auckland metropolitan area 15,000 homes are rented, 16,300 are held under mortgage, and 5,000 are unencumbered.—*U.S. Consular Report.*

URGENCY OF SLUM PROBLEM

To solve the problem of housing the dwellers of "slumdom" we must devise ways and means to provide homes of the type which are within reasonable rental and come within their means. If this cannot be done on a profit basis, then it must be done, and at once, by state and municipal aid. Homes are more essential for life, health and good citizenship than boulevards, parks and playgrounds.

It is a big problem of the greatest urgency. We dropped many things to engage in a war against brutal and unjust despotism. It is essential now to concentrate a part of that energy and determination upon this problem of providing homes for the work-people of Canada, their wives and children, the latter of whom will be the Canadian men and women of to-morrow, if the diseases of the slums do not wipe many of them out.—*C. A. H.*

SWANSEA HOUSING SCHEME.

The Swansea Corporation has received official sanction for the first part of its housing scheme, and construction will commence without delay. The scheme provides for the erection of 3,000 houses, at a cost of about £800 (\$3,893) each, as compared with the pre-war cost of £270 (\$1,314). This will mean a total expenditure for housing of £2,400,000 (\$11,679,000).

Most of the dwellings will be erected on Town Hill, which is part of the Corporation's own estate. Swansea's municipal estate is valued at £2,000,000 (\$9,733,000) and is said to be the second richest in the country. The Corporation recently purchased from Lord Swansea the so-called Singleton estate, which is about 250 acres in extent. The purchase price was £90,000 (\$437,985), but that sum does not include the timber and minerals.—*U. S. Consular Report.*

THE PREMIER OF ENGLAND SAYS:

"To be thoroughly equipped to face any emergency of either peace or war, the state must take a more constant and intelligent interest in the health and fitness of the people."

Problems of sanitation cannot be solved through caring for the victims of bad sanitation.

Problems of disease prevention cannot be solved through caring for the victims of disease.

These and similar problems can only be solved by reaching and destroying the causes, as the yellow fever problem was solved by destroying the mosquito.

To you, from falling hands, we throw
The torch; be yours to hold it high.
In Flanders Fields

No finer appeal was ever made for a sense
of national duty.

The immediate duty of every Canadian is to
give every aid to meet our war obligations.

To provide for our returned soldiers, for the
dependents of those who have not returned, to
maintain and promote Canadian prosperity,

Invest heavily in the VICTORY LOAN.

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TOWN PLANNING AND CONSERVATION OF LIFE

VOL. 6, no. 1

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Commission of Conservation
Canada



TOWN PLANNING and Conservation of Life

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The opinions expressed and statistics quoted by the writers of articles and papers appearing herein are the opinions and statistics of the authors only.

PLANNING OF CITIES IN ONTARIO

The present Planning and Development Act of Ontario deals largely with the location, the re-location, the extension and the widening of highways and parkways. A more correct title would be "Highway Planning and Development" Act. It does not deal with town planning on the broad lines of other Town Planning Acts, which have to do with the regulation of the use of land and the character of building development in cities, towns, and rural areas.

Most of the modern town-planning legislation in Canada is based on the English precedent. It has to be framed on different lines to suit Canadian conditions, but the main object is identical. The general object of the English Act is given as that of securing "proper sanitary conditions, amenity and convenience in connection with the laying out and use of land." Thus, the securing of proper sanitary conditions, which includes the consideration in advance of the facilities needed to supply land and buildings with economical means of drainage, sewerage, water supply, etc., is the first object. For instance, building on swampy land which could not be economically drained would be prevented. Again, many areas cannot be drained because a comprehensive scheme of drainage was not prepared in advance.

Under the head of amenity, which may be interpreted as agreeableness of surroundings, there would be comprised:

(a) Prescribing the space about buildings by fixing building lines or limiting the amount of a lot that can be built upon;

(b) Prescribing the height or character of buildings considered reasonable for the purpose of amenity.

Under the head of convenience the main consideration is that of highways and streets, and particularly the provision of wider main thoroughfares adaptable for the principal streams of traffic. It is impossible, however, to deal with this question of convenience in relation to traffic without considering, at the same time, the use to which the land, which is served by the streets or highways, is to be put. Proper consideration of a street or highway system involves the study of the height, density, set-back, and use of the buildings which it serves. In the case of a main thoroughfare, this consideration of building questions cannot be limited to the buildings immediately fronting on the highway; there must also be taken into consideration the heights, densities and uses of the buildings erected, or likely to be erected, on the streets which form tributaries of the main thoroughfares.

Briefly stated, a street or highway system cannot be planned as if it were a separate thing from the building development of the city.

Secondly, a proper plan for the convenience of traffic cannot be prepared unless the zoning of the city into factory, residential, and other districts has previously been taken into consideration. Traffic has a definite relation to the purposes for which a district is used. The streets should be planned with relation to these purposes as well as to the permissible heights and densities. While, therefore, the street and highway system is important, it is not the first consideration in a town plan, any more than the corridors in an hotel. The corridors have to be planned to suit the rooms, and not *vice versa*.

COMPENSATION TO OWNERS: WHEN JUSTIFIED

In our Canadian Town Planning and Development Acts we are endeavouring to broaden the scope of the English Acts by making it one of our objects to promote the economic use of land for industry, whether for manufacture or agriculture. We cannot strain the word amenity too far, that is, we cannot interfere to any great extent with vested interests in property merely to obtain an agreeable or picturesque effect. If, however, the industries of a city or district depend for their success on certain restrictions on private interests in property we should not consider it unreasonable to make these restrictions. The only things, however, that are beyond question, in connection with the restriction of private interest in property for the public welfare, are the things that relate to health. If legislation is necessary for the purpose of obtaining certain minimum standards of health we should be able to carry it into effect, even if it involves preventing some one from making a profit out of bad conditions.

Thus, what are called proper sanitary conditions, in the broadest sense, are not only of first importance in the building of a city but they should be obtainable without loss to the community over and above the cost of construction of public works. The matter may be illustrated thus:

If a street is 60 feet wide and should be made 80 feet wide to accommodate the traffic, the cost of expropriating the extra 20 feet and compensating the owners of the property should be borne by the community at large.

If a portion of the city is without parks and the city wishes to provide an open space, it should either purchase the land required or secure it by some "give-and-take" arrangement with the owners of the land.

In these two respects we are asking something for the benefit of the community, which the owner is not bound to give, as an absolutely necessary provision for health, it being assumed that the city has approved of the plan of subdivision which the owner has followed.

In these two categories we, therefore, recognise the rights of property to full compensation. Only in two respects within these classes might this be questioned, namely: first, where it is proved that the owner receives direct benefit from the widening of the street, in which case betterment might be charged against him or, second, where an owner may be required to leave a certain amount of land per acre as a playground for children in the same way as he is required to leave a certain width of land for a street. In the main, however, we may recognise the rights of the owner to compensation in respect of the widening of streets and the conversion of land into open spaces.

When we come to deal with sanitary matters, however, we enter upon a different category. For instance, why should a city have to pay compensation to the owner of swampy lands, if, by a restriction in a town planning scheme it prevents him from building on them? If an area cannot be drained without pumping, why should a city not be in a position to refuse approval of a subdivision plan until the owner agrees

to pay the extra cost of developing his land under healthy conditions? Why should the owner of insanitary houses receive any value from the city for such houses under a demolition order? Why should an owner not be made to provide sufficient air space around his own buildings to secure light and air without dependence on the street or on the property of other owners?

In all these matters it must be assumed that certain minimum standards have been reached regarding proper sanitary conditions. Having determined these minimum standards we say they should be enforced by law and that no compensation should be payable even if such enforcement involves a loss of capital or revenue to the owner of the land. This distinction between things that interfere with the health and welfare of the community, and the things that are merely necessary for convenience and beauty, is recognised in all laws relating to compensation under British common law and the constitution of the United States. It is recognised in all town planning laws and, because it permits so much to be done by way of regulating the use of the land without payment by the community for compensation to private interests, it becomes of additional importance that town planning schemes should have for one of their main objects the securing of proper sanitary conditions, amenity and adequate air space.

SHORTCOMINGS OF THE ONTARIO ACT

When we turn to the Ontario Act we find that not only is the Act limited to streets and highways, not only is there no provision made for considering the heights, densities and uses of buildings in relation to the highway plan, but the vital question of arranging the industries and residences of the city and securing proper sanitary conditions and air space surrounding the buildings is ignored.

The provisions of the Ontario Act may be briefly described as follows:

To enable cities to have some control over the land outside their boundaries, the Act sets up a new area called the "Urban Zone". The area of this zone comprises the land within five miles of a city boundary on all sides or within three miles of a town or village boundary. The Act recognizes the subordination of a town or village to a city, or of a village to a town. If any portion of a town or village is within five miles of a city, or any portion of a village is within three miles of a town it shall be deemed to be within the city or town zone, as the case may be.

The objection to this feature of the Act is the power it gives to one municipality to exercise jurisdiction within the area of another municipality, without having first provided the means to permit the planning of the zone to be carried out by the municipality in direct control of the area or by co-operation between the adjacent municipalities. In other town planning legislation a city may include part of the land outside its boundaries in its area, for the purpose of a scheme, but only when it is proved to be necessary to do so after a public hearing, and practically in no case where the outside authority is willing to co-operate and to do its own planning.

The supreme authority in town planning in Ontario is the Railway and Municipal Board. Under the present municipal machinery of the Province, this is as it should be, except that it does not appear that the Board has any expert engineer or town planner to advise it with regard to the details of schemes. In Saskatchewan, the Department of Municipal Affairs, which is the responsible authority, has a competent land surveyor as Director of Town Planning. Similarly all public hearings in England are held by trained experts.

The Act, under section 5, gives a city, town or village power to prepare a general plan but limits such plan to the restricted purposes of highways, parkways, boulevards, parks, playgrounds, and other public improvements. The plan is not required to show or to deal with the relationship of the highways to the character, density, height and use of buildings on the abutting lots. Nor is there any provision in the scheme for preparing a preliminary and tentative plan and submitting same to the Board, so that their approval can be obtained in advance of incurring the expense of getting a certified plan.

The Act permits a city, town, or village to control its method of subdividing the land within the zone in regard to the lots as well as the streets, but without respect to the character of the building development that is to take place.

Under section 6 no plan of survey or sub-division can be registered until it is approved by the local authority, but this power can be obtained without the aid of a Town Planning Act, except that the Act extends the jurisdiction of the city and town to a zone area of land outside of its own boundaries.

The matters to be considered in planning are set out in section 8. Regard has to be paid to the following:

- (a) The number and widths of highways.
- (b) The size and form of lots.
- (c) Making the subdivision conform either to general plan, or to the plan of the adjacent land.

It is difficult to see what really important object is attained by such a plan that could not be obtained by means of by-laws, or at least that does not merely consist in getting streets properly connected. The fact that the scheme does not touch buildings and sanitary conditions means that the planning of the size and form of lots is of little utility. They may be planned for the wrong purpose, even if it is the purpose most agreeable at the moment of planning to the city and the owner. Not until the city or town is planned in regard to its building development and until the location and densities of its factory and residential areas are thought out, can any highway or lot planning be settled in a satisfactory manner.

Section 9 permits the control of the planning of streets on adjacent subdivisions, so that they will be treated as one and fit in with each other. This is useful if it were part of a comprehensive scheme of town planning.

The Act also permits of the setting up of a "Town Planning Commission." It is not, however, a Town Planning Commission, but a Street Planning Commission. This Commission must be a body corporate and exercise all the powers under the Act. Thus, we may create an undemocratic body to over-ride in certain respects not only the municipality that creates it, but the municipalities within the urban zone, which have had no part in creating it. Hamilton has hesitated to appoint such a Commission because it would give power of administration to a non-elected body with no direct responsibility to the tax payers. If Hamilton objects to creating a Commission of its own selection to deal with the planning of its highways, how much more would the municipalities within five miles, but outside of Hamilton, object to a non-elected body having control of the planning of their subdivisions and highways. There may be room for considerable improvement in our democratic way of doing things, but we shall not make progress by setting up non-elected commissions to control matters within the areas of municipalities that have no choice in the selection of the members of the commissions.

Whether or not the draft of the Town Planning Act of the Commission of Conservation be acceptable, Ontario emphatically needs an

Act that will be really a planning and development act and that will show greater recognition of the value of self-government.

THE PROBLEM OF SUBURBAN ZONES

It must, of course, be distinctly recognized that the zones which lie just outside the cities must be dealt with on some different principle from that hitherto followed. It is essential that municipalities, whether cities, towns, or townships, be made to co-operate in controlling the development of suburban areas. It may be necessary to give the cities power to plan such areas, but they should only be permitted to exercise that power after it has been demonstrated that the municipalities outside the boundaries are unwilling properly to exercise it themselves.

Moreover, there is really only one vitally important matter that is wrong with these suburban areas, and that is in respect of building construction and sanitary conditions. As regards inconvenient sub-divisions or absence of proper street connections or parks, the question is important but it is secondary. In the planning, as well as in the construction of highways, we sometimes notice superior judgment and better construction on the county side of our city boundaries. The defects in the county area are most of them in the direction of applying rural laws, and a rural attitude of mind, to an urban problem of building development. It is in connection with this building development and all that pertains to it, including the subdivision of the land, that co-operative action between the city and rural municipality is needed.

The progress being made under the present Act is indicated by the following extract from the *Toronto Globe* of January 10:

Application is to be made by the city in the near future for approval by the Ontario Railway and Municipal Board of subdivision plans covering 24,000 acres outside the city limits. The city will also ask for a readjustment of the town-planning zone over which it has control, and which at present includes all lands within five miles of the city limits.

The control of the city over the town planning zone outside its boundaries being limited to the control of streets for subdivision, is, for the reasons already given, not adequate to deal with the real problem of town planning. It is questionable whether all the effort used to control these large suburban areas is worth while having regard to the limitations of the Act.

WHAT IS NEEDED IN ONTARIO

In Ontario, we must have a measure that has for its general object, the promotion of economic uses of the land, its division into manufacturing and residential sections, and the proper control of sanitation, building development, and traffic facilities in connection with it. We need not only that the scope of the Ontario Act be widened to cover real town planning, but also that municipalities be given the power to obtain certain standards of sanitary conditions and air space without having to pay compensation to those who claim to possess vested rights in conditions that are insanitary, or in such densities of building as do not make sufficient provision for circulation of air.

When we have determined all the things that a city may reasonably do to prevent bad conditions and have secured them by a good town-planning scheme, we may have money to spare for luxuries in the way of wider streets and more parks. In view, however, of the heavy financial commitments of our cities, it is in the direction of preventing evils by controlling the actions of those who abuse property, rather than by spending large sums for ornamental features or on expensive reconstruction, that most progress can be immediately secured. Many

necessary reforms can be secured by a scheme without any expense other than the cost of preparing it. Other desirable features may have to wait for want of money, but will be easier and cheaper to obtain, because our scheme will show us what is needed in the way of reconstruction and the best way to get it.

The existing Ontario Planning and Development Act does not meet the needs of cities such as Hamilton, London, and Windsor, which have been giving consideration to the desirability of preparing comprehensive town plans. These cities require a great deal more than the power to control the subdivision of land in the zones lying within five miles of their boundaries. Their estimate of the value of this power to them is shown by the fact that they have taken no steps to give it effect. What these cities require may be summarized as follows:—

1. *A regional study or survey of the industrial, residential, and transportation problems within their boundaries and within the urban zone five miles beyond their boundaries.*

There is no reason why this study should not be proceeded with at once without waiting for further legislation. Hamilton has already carried out the greater portion of a preliminary survey, and London has had a report on its railway situation. The information obtained in these reconnaissance surveys will be invaluable when the time comes to prepare the city planning schemes. Their only real utility is as a preliminary to such schemes.

2. *Additional powers as hereinafter set forth to deal in town planning schemes with all matters connected with the future growth of the city, with the general object of securing the best economic use, proper sanitary conditions, amenity, and convenience in connection with the development of the land.*

The late Premier, Sir William Hearst, raised the objection that much of what is required is already covered by the Municipal Act. One can appreciate the propriety of avoiding duplication of laws giving the same powers, but one must not lose sight of the fact that a town planning scheme has to be framed on elastic lines and with reference to large areas, and that the powers given in the Municipal Act, in reference to local improvements and bylaws, are too definite and inelastic and too scattered among general municipal provisions to be of value in preparing town planning schemes. In any event, if there is fear of duplication, this can be avoided by substituting references to the particular sections of the Municipal Act that give certain powers, for actual provisions. For instance, if it be the case that there is ample power in the Municipal Act to deal with the fixing of residential areas, we could simply refer to that in the Town Planning Act and not include a special provision to cover it. The definite requirements may be stated as follows:

PROPOSALS FOR REVISED LEGISLATION

1. The present Planning and Development Act should be modified so as to permit the municipalities in the urban zones, which lie outside of the cities and towns, to prepare their own schemes if they wish to do so, while retaining for the city or town the power to include the outside area in their scheme in the event of lack of co-operation of the outside authority to prepare its own scheme or a joint scheme.

2. A special official with town planning qualifications should be appointed under the Act to assist the Railway and Municipal Board to administer the Act and to advise local authorities.

3. Each municipal council should be required to make a survey of its area and conditions, and provide for assistance being given by the Provincial Government in the preparation of topographical maps of all districts which are in course of development.

4. Provision should be made for securing co-operation between municipal councils and owners of land so as to give permanent effect to restrictions on the use of land relating to such matters as building lines and the use and character of buildings.

5. The following powers should be granted under the Act to municipalities:

(a) The suspension of any powers in the Municipal Act, subject to approval of the Railway and Municipal Board, so far as the suspension is necessary for the proper execution of any scheme.

(b) Power to remove or demolish buildings which may be erected in contravention of the provisions of a scheme, after the scheme has been approved, as well as after proper notice is given and while the scheme is being prepared.

(c) Provision, not only for paying compensation for injury to owners of property, but also for obtaining for the city half of the increased value given to any property by reason of benefits accruing to such property by the scheme.

(d) Power to prescribe certain areas to be used for dwelling houses, apartment houses, factories, warehouses, shops or stores, etc., and to fix the height and character of the buildings in these areas.

(e) Exemption for any city or town from claims for compensation in respect of any requirement of the scheme which restricts the use of land for the definite purpose of health of the inhabitants or the amenity of the district, *e.g.*, in regard to fixing factory, business or residential areas, the space about buildings, the percentage of lots that can be covered with buildings, or in regard to the height, character and use of buildings so far as such exemption may be regarded as reasonable by the Railway and Municipal Board.

(f) Power compulsorily to acquire land in the same way as under the Housing Act of the province, without cumbersome process of arbitration; and to acquire land in excess of the amount needed to widen a street or construct a new street through a developed area and to re-sell such land after the improvement is made.

(g) Power to fix building lines and reserve land on unbuilt-upon areas for new main thoroughfares.

(h) Power to classify any land to be used for different kinds of agriculture, horticulture, open spaces, etc., and to recommend a special system of assessment in relation to such classification of uses.

(i) Power to prevent noxious trades, bill-boards, etc., where injurious to the surroundings.

(j) Power to rectify or alter any existing subdivisions, including the pooling of lands of several owners, and the roads and streets abutting or adjacent thereto; and to initiate the planning of the subdivision of land in advance of its being placed on sale for building purposes, for the purpose of bringing owners of adjacent lands into line with any comprehensive scheme.

(k) Power to prevent building on low-lying and insanitary lands pending reclamation and until provided with sanitary arrangements at the expense of the owners.

(l) Power to obtain proper representation of the Municipal Councils on town planning commissions and limitation of the spending power of commissions to the cost of preparing schemes. Expenditure on execution of schemes to be subject to approval of Municipal Councils.

(m) Power to classify roads or streets (after zoning into factory, business and residential districts) as follows:

(1) Main arterial roads.

- (2) Secondary roads, being roads for general or local traffic.
- (3) Industrial roads for access to industrial districts.
- (4) Residential roads, being roads used primarily for access to residences.
- (5) Parkways or boulevards, being roads which serve the purpose of either a main or secondary road, a portion of which is dedicated to ornamental purposes, etc.

The Provincial Government should be asked to incorporate provisions in the present Act or to frame a new Act to cover these requirements. It should be so framed as to permit local authorities to prepare comprehensive schemes of town planning.—*Thomas Adams*

NOTE.—A resolution was passed at the Hamilton conference representative of the cities and towns of southwestern Ontario, held on November 27 and 28, asking the Government to amend the Act in accordance with the above summary. It is hoped that the matter will receive the favourable consideration of the new Government.

HOUSING REFORMS NEEDED IN CANADA

Resolutions passed by the Convention of the Sanitary Inspectors' Association of Western Canada, held at Saskatoon, Saskatchewan, August 1st and 2nd, 1919.

WHEREAS there is a prevailing shortage of houses for industrial workers in nearly all the towns and cities in Canada, due largely to the cessation of the building of houses by private enterprise during the period of the war, and

WHEREAS the building of houses by private enterprise has seldom resulted in the provision of an adequate supply of small houses and cottages and, moreover, the element of speculation inseparable from building under private enterprise has resulted in the erection of large numbers of houses of inferior construction not adapted to the needs of the climate of Canada, especially in winter, and

WHEREAS the cost of building materials and labour are now so high as totally to discourage the building of houses by private investors,

THEREFORE: The Sanitary Inspectors' Association of Western Canada, composed of Sanitary Inspectors who are in daily touch with the evils caused by lack of proper housing, makes the following suggestions regarding housing:—

1. *Necessity for Municipal Housing Schemes.*

That in all urban municipalities where there is a known shortage of suitable houses for industrial workers, Municipal Housing Schemes should be inaugurated, taking advantage of the Dominion Government money offered for that purpose at 5 per cent interest, and which may be obtained through the various Provincial Governments. Following the example set by Great Britain, houses should be provided even though the present high cost entail a loss by the Government or municipalities. One advantage of building under the Dominion Government plan is that municipalities may obtain the advice and assistance of the housing experts of the Government.

2. *For Sale or Rent?*

We do not dogmatize as to what shall be done with the houses after erection. Whether they be sold outright to individual purchasers, rented or sold to co-operative groups or working men, is immaterial, except that we may point out that by building for rent the poorest families who are most in need of better housing and who are least able to provide a deposit for the purchase of houses, will be accommodated.

3. *Size of Lots.*

In cities and towns such houses should be built on lots not less than 33 feet wide, in order to obtain adequate light and ventilation.

No more 25-foot lot subdivisions should be approved. Legislation prohibiting this practice and also limiting the number of dwellings which may be erected per acre, should be enacted by each province.

4. *Warmer Construction-Necessary.*

Any dwellings built under Municipal Housing Schemes should be constructed in a more substantial manner than has hitherto obtained in this country. There is no reason why houses should not be insulated with Flaxlinum or other approved non-conductor of heat. This would make such houses cooler in summer and, during the winter, would result in the saving of great quantities of coal annually, besides sparing the occupants a great deal of misery and discomfort at present experienced in poorly constructed houses.

5. *Adequate Building By-laws and Inspection a Necessity.*

Constant supervision is required during construction. Where there are no proper building laws, or where such laws are defective, these should be enacted or revised and made effective by adequate inspection.

6. *A Housing Law, as Distinct from a Building Code, Necessary.*

Every province and every municipality should have a *housing law* as distinct from a mere *building code*. In places where there is no effective building or health inspection, the Provincial Government should take control and supervision of housing schemes.

7. *Plans of all Dwelling to be approved by Health Department.*

The plans for every building intended to be used for human habitation should be examined and approved by the Health Department before permit for construction is issued. This approval should apply to open spaces around the house, the lighting, ventilation, plumbing, and drainage, and all other features affecting the health of the future occupants. A final inspection and permit of the health officer should also be required before occupation is permitted.

8. *Speculation in Lots should be restricted.*

Each Provincial Government should devise and enact legislation which will prevent, as far as possible, speculation in building lots, the unrestricted abuse of which is very largely responsible for our housing evils.

9. *Provincial Governments should approve Sites of New Towns.*

The consent of the Provincial Government should be required in the selection of any proposed new townsite in order that the practicability of obtaining proper drainage and other sanitary features may be ensured.

10. *Types of Houses recommended.*

The types of houses recommended are 4- and 5-roomed cottages. These should largely predominate, although a number of 6- and 7-roomed houses might also be supplied. The limited number of small houses and cottages now available has resulted in the occupation of larger houses by several families for which they are not at all adapted. This unlawful conversion of one-family dwellings to the uses of tenement houses is producing over-crowding and other insanitary conditions. The occupation of such houses as tenements is not conducive to health or morality, and is the beginning of slum conditions.

11. *Reduction of Cost by erecting a number of Houses at one time.*

It should be quite possible to reduce the cost of construction of houses built under any municipal housing scheme. Many of the component parts of houses can be standardized and the purchase of the materials in large quantities should result in a considerable saving. This applies especially to materials for drainage and plumbing, heating apparatus, and lighting. If all the houses in a municipality are erected in one locality, there should be a further saving on haulage and on cost of supervision.

12. *Reduction of Taxes on Single Family Dwellings.*

Further encouragement might be given by municipalities reducing or remitting the taxes on buildings used as dwellings by single families.

GARDEN SUBURB AT SHERBROOKE, QUE.

At Sherbrooke, Que., there is to be a new garden suburb, due to the initiative of the Canadian-Connecticut Cotton Mills Co. and the sympathetic and intelligent co-operation of the citizens. A housing company has been formed, for which a charter has been received from the Quebec government. A contract has been made with the cotton company whereby the company takes all responsibility and guarantees to pay the housing company 10 per cent per annum on the investment and to collect the rents from the tenants. One hundred houses will be built during the present year and another hundred during 1921 and after that more houses to keep pace with the extension of the plant, which is expected to double its capacity within the next few years. At a recent meeting of the City Council, Ald. Wells stated the case as follows:

The company merely want houses for their employees, whom they wish to help in every way. It will be a losing proposition for them, but they are willing to do it to get the houses. As for us, we are merely lending the provincial money to the Housing Company, who will also operate at a loss, and we are getting a great new industry for the city.

The City Council approved of the contract with the cotton company. A site of 52 acres adjoining the Company's mills has been bought at \$1,000 an acre, and is to be laid out on town planning lines. The project is receiving every encouragement from the housing department of the Government of Quebec.

DAY NURSERIES

There is one feature of the cotton company's scheme that would have been considered wildly idealistic a few years ago, but which modern experience has shown to be very profitable, as it has reduced the labour turnover from 400 per cent to practically nil. The company desire to establish, as part of the housing scheme, day nurseries for the conservation of child life, because they have tried the experiment at their mills at Danielson, Connecticut, and found it a crowning success, both from a business and a humanitarian standpoint. The following letter from Mr. R. J. Caldwell, chairman of the Company, to Dr. Nadeau, Director of Housing, speaks for itself:

I see that, while your plans do not provide for day nurseries in the provincial housing plan from which Sherbrooke is to benefit, yet something may be arranged in this programme at Sherbrooke, and I am happy to see your interest in it; but I can assure you from our own practical experience that nurseries are very profitable institutions. We noticed in our mills at Connecticut and Massachusetts that a good many children of mothers who wanted to work in the mill were neglected during the day, because of the absence of the mothers, and that the more conscientious mothers would not leave their children, and those who perhaps were in better condition financially through other workers in the family, and could stay home with the children, still preferred to work if the children might be provided for.

We therefore inaugurated an experimental nursery in Danielson, Conn., which became immediately popular and received the quick

support of the clergy, and within a week it was necessary to make plans for its enlargement. We were shocked to find so many children suffering from malnutrition and general results of neglect or ignorance on the part of the parents. This is a bad thing for the community and a bad thing for the State. It breeds a race in the coming generation that will be defective physically and hence mentally. It makes backward school-children, and hence contributes to crime. There is nothing in my judgment in our whole housing campaign which has proved of more far-reaching importance than caring for the children, and surely the carrying out of it is its own reward, for the trained nurses and attendants, scientific cooking provided, and daily visits from the doctor have made happy children out of a lot of unhappy ones, and contented parents, who, it can be stated with assurance, would never be satisfied again to see their children less healthy and vigorous and contented than they are as a result of the administration of the nursery. Certainly the nursery has been a boon to all. It has won the hearts of the mothers and contributed to contentment, and been one of the factors in our turnover of labour, which, in so far as it is housed in our own modern housing, has been reduced from 400 per cent to actually less than 10 per cent.

We have ample evidence that the experience of other manufacturers has been the same as ours, and I have talked with some of the largest concerns promoting home building for their employees and the story is everywhere the same.

The plans for the nursery at Danielson show a splendidly equipped institution with large playrooms, dining-rooms, cradle room, bath, pantry, dish-washing room, open terraces, cloak rooms and other utilities and amenities, and should captivate the imagination of all who believe in the possibility of better and more human relations between capital and labour.

It is noteworthy that the British Ministry of Health are advocating similar methods for the preservation of child life. In 1918, for the first time since efficient records have been compiled, the death rate exceeded the birth rate. The maximum for the birth rate was reached in the years 1871-1880, when it amounted to 35.4 per 1,000. From that time a steady decline in the figures became evident, and in 1918 they had fallen to 17.7 per 1,000. The British Municipal Journal draws the conclusion that health conditions must be improved if the race is to be preserved.—*Alfred Buckley*

THE HOUSING OF UNSKILLED WAGE EARNERS

In the face of all that has been done and all the money that has been spent on attempted solutions of the housing problem, the housing of the unskilled or low-paid wage earners cannot yet be considered as solved. Not only has it been found very difficult to provide houses at a low enough purchase price to meet the case of the poorest workman, but it has been found that a large proportion of workers are unable to take advantage of the current house-purchasing schemes because of lack of means to meet even a small percentage of the cost. The needs of such workers can only be met by the erection of houses at a price that would enable them to be rented at from \$15 to \$20 a month, inclusive.

The time seems to have arrived when the housing of families depending upon the returns from unskilled labour will have to be undertaken by Governments in the interests of national efficiency. It

does not seem any longer that "the incentive of gain" can be recognized as an efficient and satisfactory stimulus for the adequate housing of the low-paid wage earner.

Mrs. Edith Elmer Wood, in her volume entitled "The Housing of the Unskilled Wage Earner: America's Next Problem," just published by the Macmillan Company, declares that one of the incidental benefits from the war has been the removal of the whole question of the housing of the poor from the domain of speculative enterprise to that of social and communal responsibility. "Great Britain," she says, "has written on her statute books and established in her practice the doctrine of communal responsibility for the housing of the people. The war has quickened the public conscience in matters of social justice; it has taught us the need of conserving life and health and that, if we expect good men to keep on working under high pressure, they must have real homes to go back to when the day's work is done, not simply a roof and a bed. Under the strain of war the law of supply and demand, always painfully inadequate, broke down completely and almost overnight the great step was taken of establishing Government aid in housing, which would, under ordinary circumstances, have required years of patient education and work."

Mrs. Wood maintains that unskilled workers cannot be supplied with decent homes under existing economic conditions on a business basis and the work must be undertaken as the intricate problems of the war were undertaken, by the application of Government machinery and the science and skill of expert students of the problem. Only by such methods were the immense difficulties of war administration overcome.

Mrs. Wood gives an exhaustive history of the progressive housing legislation of New York and other cities and countries in the interests of better housing. She shows that the tendency of governments in democratic countries is to allow the maximum of freedom until such freedom becomes a danger to the state. It has been manifest for a long time that in practically all large cities, making the housing of the poor dependent upon the incentive of gain has produced results that have become distinctly dangerous.

When legislation begins to be applied to such questions as housing the first steps are usually restrictive. It is Mrs. Wood's purpose to show that restrictive legislation can never solve the problem of housing. It is not enough to say what must not be done. One of the most obvious results of restrictive legislation is to put a stop to much of the housing provision that was supplied under the laissez-faire principle.

In order to develop a constructive policy she argues that there are at least three positive methods that may be adopted by a state. The first is direct State or municipal housing; second, government loans to non-commercial housing companies, such as co-partnership building societies and, third, direct government loans to individual workmen.

The principle of differential taxation by which working-class houses, up to a certain figure, would be exempt from municipal taxation, Mrs. Wood considers, is legislation of a negative rather than a positive type. She points out that, for any solution of the problem, restrictive *and* constructive legislation are necessary; the former for the prevention of bad housing and the latter for the actual building of satisfactory houses for the working class population.

"Mere increases of wages will not build houses, as Henry Ford has proved by his experience in Detroit. The landlord will merely raise rents to correspond".

On the other hand, constructive legislation in itself will not be sufficient. There must be minimum standards and town planning to

prevent the creation of new slums and for the gradual elimination of those that exist. There will always be a population willing to live in cellars or dark rooms, in filth and dilapidation to save a few dollars a month of rent so long as the community allows landlords to offer such places for living purposes. Mrs. Wood is convinced that housing and town planning should be bound as closely together as possible. She sees that attention should be directed, not only to the actual structure in which people live, but also to the surroundings of the house so that such questions as air space, gardens, grouping of buildings, height and density of buildings—factors that are vitally important in the problem of improved housing—should not be neglected.

"Every state", she says, "should have a restrictive housing law, a constructive housing law, and a town planning law. These might be three separate statutes or might be included as parts I, II, III of the same statute". Mrs. Wood is of opinion that the British method of direct construction through government machinery, together with the financing of public utility societies, is entirely wholesome. She thinks that the element of competition between municipal housing and non-commercial housing companies, who are likely to bring special enthusiasm and ability to their task and to take special pride in their work as social reformers, is likely to work in the direction of public welfare.

Mrs. Wood takes issue with the common objections to government and municipal housing. She states that, at a recent meeting of the United States National Housing Association, a delegate declared that he did not believe the time would come when American tax bearers would be willing to build houses for able-bodied work-people to live in and that the statement was received with considerable applause.

Respecting the attitude of this delegate, Mrs. Wood says:—

"Now the whole appeal of this statement lies, of course, in the unexpressed implication that the taxpayers would be out of pocket by such a transaction and that they would be unwilling to add to their burden of taxation in order to provide houses for able-bodied working people.

"The present writer is of the opinion that a very good argument could be made in favour of the taxpayers adding to their burdens for such a purpose. She believes that if there were no other way of securing a wholesome home for every family, the taxpayers *ought* to assume such a burden, and that, if they were really unable to carry both, housing should take precedence of schools. Health and morals are needs more primary and elemental than education.

"As a matter of fact, however, there is no such need, and consequently no excuse for any such policy in the United States. We are advocating the use of the community's credit, not of its funds. We are aiming to give a service *at cost*, not below cost. A properly conducted constructive housing scheme is exactly self-supporting. There is neither profit nor loss of a financial sort to the community, though there is very great profit in the form of better health and better citizenship.

"The worker is to have his house at cost, *whatever that may be*, not at a given price, no matter whether or not there is a deficit. Every effort should be made to keep down expenses so as to offer a house of approved standard at a predetermined rent. But where a small deficit creeps in, in spite of calculation, the rent should be raised to meet it.

"As with municipal building, so with government loans. Commercial profit in money lending is to be eliminated. The community uses its credit to obtain cheap and plentiful money and gives the borrower the benefit of the cheapness and of the plentifulness. It is he, however, and not the community, who pays the interest and repays the principal. This fact has to be emphasized, for the mention of a bond

issue arouses in the taxpayer's mind the idea of a big bill, as for parks, bridges, or public buildings, which he or his successors will have to pay. If the bond issue is for the purpose of housing loans, the borrower pays the interest, plus a contribution to the sinking fund, plus whatever is necessary to pay the overhead charges of the bond issue, and the taxpayers pay nothing." Mrs. Wood's book is worthy of study by all students of the difficult but increasingly important problem of housing.
—*Alfred Buckley*

ADAPTATION OF WOODEN HOUSES TO BRITISH CONDITIONS

Wooden houses, common enough in Canada, are a novelty in Great Britain, but the present severe shortage of houses in the Old Country, has led Englishmen to experiment with New World methods of construction. After much controversy there seems to be a real probability that the advantages of the wooden houses are likely to be appreciated in Britain. In view of the fact that, after a full year of preparation for the extensive building programme undertaken by the Ministry of Health, very few houses have been erected, it is being realized that the question of ultimate durability is not the only one for consideration. The time has come, therefore, when the question of speed in building is being recognized as equal in importance to that of durability, considering the urgent need for housing in the Old Country.

Sir Charles T. Ruthen, F.R.I.B.A., has experimented in the building of wooden houses at Newton, near Swansea, and has set forth the results in an article in *The Surveyor* for October 24th, 1919. He was convinced by study of American and Canadian house building that the wooden house was practicable for British use; that its durability was sufficient for ordinary purposes, and that it could be erected more cheaply and much more quickly than the ordinary brick house with which the British people are familiar.

He points out the fact that 75 per cent of the private houses in America are built of wood, and that thousands of the very fine houses constructed there have lasted satisfactorily for a period equal to the life of the majority of the brick and stone houses in England. He therefore designed and built three types of houses, finishing them with cement plaster, and the result has given entire satisfaction.

The foundations are of brick and a bitumen, damp-proof course is laid upon this foundation. The entire site has been covered in each case with a layer of cement concrete. The wooden framework of the house is then erected in much the same way as in Canada. So far there is nothing original, but the second process involves the application of a bishporic stucco board consisting of three distinct materials. The first is a fibrous board; the second a thick layer of asphalt-mastic, and on this is placed cement plaster for the external finish. The final appearance is much like that of a brick house with cement stucco. The cement plaster must be of good quality, applied in two distinct coats: the first fills in between dove-tailed laths and forms a skin over the laths, and the second is of similar rich mixture and is finished in ordinary stucco manner. The total thickness of the cement plaster upon the first of the laths is about one-half inch.

The intention has been to show that artistic, strong, lasting, weatherproof houses can be erected in a few weeks and that, after completion, they can be tenanted immediately. The houses in question

were built in 30 days. The cost was \$625 less than would have been required to build a brick house. It is also claimed that the area to be covered is smaller, the foundations less costly, and the roof timbers and slating less in quantity.

"In conclusion," says Sir Charles, "I may state definitely that, in the present national emergency, I place speed in erection first of all, and incidentally, speed with which houses are tenatable after completion. I place, next in order of importance, weather-proof qualities and stability of structure; all other essentials follow in order of importance. I feel confident that the life of structures properly erected, similar to the specimen houses at Newton, will be quite as long as most of our pre-war houses, and there is no doubt that the cost of erection is less."—*Alfred Buckley*

CONCRETE BLOCKS IN HOUSE CONSTRUCTION

One of the most interesting features of the Glasgow Housing Exhibition is the concrete outfit which was responsible for the building of the "Mystery Port" during the war.

There are in actual operation several machines used in the construction of concrete houses. The machine makes sufficient blocks and slabs in $3\frac{1}{2}$ days for a two-storey cottage covering an area of 400 square feet. There are other machines for various features of the work, such as a pressure machine specially designed for light labour and small housing schemes, a chain spade concrete mixer with $2\frac{1}{2}$ h.p. paraffin engine, a stone breaker, which crushes the hardest rock down almost to graded sand, and a roofing tile machine ensuring tight, waterproof roofs.

The Scottish Local Government Board, in its official report published in July, 1918, states that the following methods of construction have been adopted for the outer walls:

- (1) 11-in. cavity walls formed of two $4\frac{1}{2}$ -in. brick with a 2-in. cavity, the walls being bound together with galvanized iron ties.
- (2) 9-in. cavity walls formed of two 3-in. concrete slabs built similarly to (1).
- (3) $4\frac{1}{2}$ -in. brick walls with 9-in. brick piers at intervals.
- (4) $2\frac{1}{2}$ in. concrete slabs with 9-in. concrete piers at intervals.

The last two modes of construction have been adopted only in single-storey types of houses.

Regarding this special type of house construction, as demonstrated at the exhibition, it is claimed it is absolutely bone dry, the cavity wall, like a thermos flask, retaining the interior heat and excluding that from outside, with the result that a house so built will not only be healthier and more permanent than that erected with any other material, but cool in summer and warm in winter.

HEALTH WORK IN WAR AND PEACE

A wise physican, skilled our wounds to heal,
Is more than armies to the public weal.—*Pope*.

The world has never so thoroughly realized the truth of these words as during the recent war. Prominent national leaders frankly admit that medicine, as practiced in camp and hospital, on sea and land, in workshop and factory, has been an important factor in maintaining our national efficiency during the war. Not only has illness been prevented, but the fit have been maintained so and thousands have either been made fit or have been allotted work for which their strength was adequate, even though not of the highest order.

It has been acknowledged that the success of the armies of the Entente was as much due to the high standard of their physical condition as to their valour and courage; indeed, their power of endurance had a most important bearing on the latter. Medicine now has, therefore, a great opportunity to be heard and to take its place in shaping the national life of our people.

It must, however, be remembered that the favourable conditions under which physicians carried on their work during the stress of war no longer exist. The medical man will not be able to work with a disciplined force. Hence, it may be that a long process of education must be begun to educate the public to the necessity of measures which, in dealing with the army, could be put into effect by a simple military order.

It may be suggested that Government itself will, through the new Department of Health, either initiate legislation or carry on a vigorous campaign of education, but, as democratic governments cannot legislate in advance of public opinion, the educational campaign must come first.

During the war there were four chief divisions of medical service, viz, medicine, surgery, sanitation, and medical laboratories. These were subdivided into special sections, each assigned its own particular duties, but all branches working together as a unit. The service also included specialists and consultants, and with this organization it was possible to accomplish results which stand forth as benefits for all time.

What medical men can do when organized in a businesslike way has been demonstrated. It is a great problem for medical men themselves to solve as to how far similar administrative and co-operative methods can be adapted to the people's wants in civilian life.

What then is to be the position of the profession in relation to the public? Some advocate a public medical service; others, an extension of hospitals and dispensaries with a state insurance to persons of limited income, such as prevails in Great Britain; others, again, would accept philanthropy from rich men and corporations, though it is to be feared that the self-respect, both of the medical men and of the public would suffer in consequence.

In the early days of health work in this Dominion, it was considered by our legislators that all the work which should be done under our provincial health Acts might properly be administered by local boards of health, but experience demonstrates that the operations of these boards have not been a success, except in a comparatively few instances. The scheme was copied from Great Britain, but even there it has not always been successful. Voluntary effort has endeavoured to supply the shortcomings of this system and, as a result, we find many voluntary organizations carrying on work which should more properly be controlled and directed by the local health authorities. For instance, there are societies for tuberculosis work, for babies, for maternal welfare, for milk stations, for district nurses, etc. The reason is simply that the local boards of health have not been provided with sufficient funds to carry on these various lines of work. There is, therefore, a very real opportunity for a central, national authority to assist and co-ordinate these various activities.

Medical research work, again, is a most important question, for the progress of modern medicine is intimately dependent on experimental laboratory work, which must be carried on in closest association with clinical medicine and surgery. Scientific investigation should not be left to the medical departments of our universities and to general and special hospitals without any co-ordination by a central department of government.

There is also wide scope for the publication of literature on hygiene suitable for popular reading. In this respect we can profitably follow

the example of the United States Public Health Service, which issues most valuable literature, of interest both to the medical profession and to the public.

There is one other problem, which appears difficult of solution, namely, to devise some workable scheme whereby the nation can, from time to time, ascertain the true facts as to our physical efficiency.

The medical examination of conscripts revealed to the country the number of men of A-1 standard and those who were of a lower category. Of 361,605 men examined from September 22, 1917, to November 16, 1918, only 180,366, or less than 50 per cent, were of category "A." Had the war not intervened, we might have continued preaching for years as to the degeneracy of the race, and have been scoffed at as many have been in the past. What is needed now is a system of examination which will show accurately the true physical condition of the whole people. The figures in respect to medical examination under the Military Service Act are what are required in peace time. A "health census" should be taken from time to time, because, without the facts, we can never feel sure of the progress we are making in improving the physical standard of our people. It is to be hoped that a future report will be of a more encouraging nature.

Our industrial efficiency depends very largely on the physique of the worker, and hence the work of the public health authorities is of the highest importance in assisting us to maintain our place, not only in the bitter struggle of war, but in the less strenuous rivalry of peace.

—*Chas. A. Hodgetts.*

THE PHYSIOLOGY OF THE INDUSTRIAL WORKER

The extraordinary call upon human energy in every field of industry during the period of the war has directed great attention to the physiological aspects of the human factor. Largely as a result of the urgency of the situation, great but somewhat spasmodic efforts were made along the lines of, so-called Social Welfare work, but all of these efforts have been of a tentative nature and, though they have served the purpose in the great emergency, it must not be concluded that any or all of them can be generally adopted in the work of reconstruction. There are certain physiological facts which must be studied and worked out before we can apply scientific methods to the solution of these human problems and, as economy is as important as efficiency, we would advise caution in the adoption of any general scheme of welfare work. Each separate industry must be scientifically studied as to its particular effects on the workers and the remedy must be applied as science directs.

Then, too, we must not forget or overlook the fact that, altogether apart from the industrial work itself and the labour involved, there are important factors which make for efficiency as well as impair the vitality of the worker. These relate to the home and all that goes with the worker's life outside the hours of labour. It is not alone the time spent in the factory which make or mar efficiency; the remaining fifteen or sixteen hours play a most important part, and the best of conditions in the factory or warehouse may be completely neutralised by the evils of our modern home life.

There are, therefore, two problems to be studied when discussing industrial physiology. We cannot separate them and, if capital has its responsibilities during the hours of employment, the labourer has his or her responsibilities during the remainder of each twenty-four hours. We cannot hope to arrive at the maximum of human efficiency if we do

not work out the problems from the basis of both industrial and social physiology. The two must be worked out simultaneously by both observation and experiment.

Industrial physiology has two objects: (a) the scientific one of learning how the industrial worker actually performs his work and what the conditions are under which he can work most efficiently and produce the largest output, at the same time maintaining his bodily health and keeping himself in the best working condition; (b) the practical one of establishing in each factory the conditions which conduce both to the maximum in output and the maintenance of the maximum power or efficiency of the employee.

Some of the subjects under investigation are the following:

(a) Certain physiological and psychological tests with workers;
(b) The output of successive hours of the working day in different types of operations has been measured, and the daily curves plotted;

(c) Physiological analyses of certain operations have been made by means of the cinematograph and other methods;

(d) The self-limitation on the part of workers has been studied, as well as others bearing on efficiency.

The following are some of the results obtained:

(a) It appears practicable to employ certain tests in selecting workers and assigning them their work;

(b) The output curves show a reduced efficiency as the day proceeds, indicating a growing fatigue;

(c) The duration of work which conduces to highest efficiency varies with the character of the work itself;

(d) The introduction of resting periods in the working spell is accompanied by a total increase in the day's production;

(e) A hot day tends to impair strength and reduce output;

(f) Night work, in general, is less efficient than day work, its total output is less;

(g) Alteration of periods of night with day work is more profitable than continuous night work;

(h) Accidents to workers are a source of marked inefficiency. They are caused by fatigue, inexperience, speed of working, insufficient light and high temperature. Many industrial accidents are preventable and adequate provision of first aid measures diminish the seriousness of accidents.

(i) A high labour turnover is incompatible with the highest degree of efficiency. It is expensive, as it imposes on the employer the necessity of training new workers; it is also a serious factor in the causation of accidents.

In regard to women, it is found that they are capable of performing a much greater variety of industrial operations than has heretofore been recognized. Statistics show, however, that they are absent from their work more frequently than men. They should not be employed in night work.

As comparing the two sexes, the problem is not so much that of their efficiency, but rather what types of work each sex is best fitted for.

The foregoing is but a brief review of the subject, and the work done has only been touched upon, but sufficient has been said to show that, so far as industrial physiology is concerned—as apart from that of social physiology—there is a field for work being carried on in Canada which cannot fail to be of lasting benefit alike to employer and employee and all of which will make for our national efficiency.

In Great Britain, the work begun during the war by the Health of Munition Workers Committee is being continued by the Industrial

Fatigue Research Board. Its functions are to consider and investigate the relations of the hours of labour and other conditions of employment, including methods of work, to the production of fatigue, having regard both to industrial efficiency and to the preservation of health among the workers.

In the United States, the Public Health Service, in co-operation with other national committees, has been conducting investigations on different topics of industrial physiology and its report will soon be made public.

The Federal Department of Health of Canada may take up this important and intricate question and not only pursue investigation and enquiry on the lines of industrial physiology, but consider the still more serious problems of social physiology which may be found to have a more important bearing on industrial efficiency or inefficiency than those revealed by a study only of industrial physiology, which, in our opinion, is the one of lesser importance; but it will be of no benefit to remedy the one at the expense of the employer without eradicating or minimizing the evils that surround the employee during the fifteen or sixteen hours he is not employed in the factory. The tenement, with its accompanying social evils, will be found to be a more important factor to wrestle with in making for national efficiency than many of the conditions revealed by a study of industrial physiology alone.

IMPROVED PATENT MEDICINE LAW

Most important and somewhat drastic changes have been made by the Parliament of Canada in respect to proprietary and patent medicines, all of which, if properly enforced, will prove of great public benefit. It will be illegal hereafter either to manufacture, import, or offer for sale proprietary or patent medicines containing opium or its derivatives for internal use.

Patent medicines bulked with soothing syrups are covered by the inhibition that no patent medicine intended for infants under one year of age shall contain any derivative of coal-tar, which, in the opinion of the Advisory or Patent Medicine Board, is dangerous to children of that age.

No proprietary or patent medicine coming under one or other of the following groups shall be either manufactured, imported, exposed or offered for sale or sold in the Dominion:

- (a) If it contains cocaine or any of its salts or preparations;
- (b) If it contains alcohol in excess of the amount required for solvent or preservative;
- (c) If it contains alcohol insufficiently medicated, to be used as a beverage;
- (d) If it contains any drug included in the schedule and the name thereof is not that commonly employed;
- (e) If any false, misleading, or exaggerated claims are made on the wrapper, label or advertisement of the article;
- (f) If the article be represented as a cure for any disease;
- (g) If it contain any drug included in the schedule, the name of which and the amount per dose of which are not conspicuously printed on an inseparable part of the label and wrapper of the bottle, box, or other container, or if the quantity of such drug exceeds the amount permitted by the Advisory Board.

THE CHILD IN INDUSTRY

To use the words of Ruskin, "To become a man too soon is to become a small man". The forcing of maturity at an early age upon either a boy or a girl not only results in a small man or woman physically, but it also results in smallness of intellect and narrowness of vision, as well as incapacity for the appreciations of obligations and the assumption of responsibility Such unfitness is not only serious from the point of view of defence, because of the large number of men of military age that are incapable of bearing arms when it becomes necessary to call on them to do so, but the lack of health and strength is a serious handicap to the industries of a country where such conditions exist. The principal factor in industrial production, in fact in production of any character, is the physical and mental alertness and energy of the people. Any cause, therefore, which decreases the physical and mental power decreases the most important resource of a country.

Another important effect of weakening a nation physically is the certain inefficiency of the coming generation. Keeping children out of factories, shops and mines until they are fourteen or sixteen years of age undoubtedly has a favourable effect on their bodies, but to allow them to roam without continued mental direction and improvement is to encourage a crop of social weeds which may be the more serious because it is stronger. Physically defective people are a liability which could only be properly eliminated by suitable provision for and methods of educating the boys and girls.

Another feature of the abolishment of child labour and the substitution of compulsory education for strenuous hours of employment in early years is that the resulting increase in trained intelligence will make possible a much better relationship between the employer and his workmen. There will be a better chance of the workman understanding and appreciating the problems of management, sufficiently to fit him for participation in the internal affairs of the concern which affect him. He is entitled to this participation and will develop a deeper appreciation of the responsibilities which each person should have for the welfare of the whole community.—*Pulp and Paper Magazine.*

HINTS REGARDING CARE OF THE EYES

1. The continued use of the eyes at close work is harmful, even if the eyesight is perfect. Rest the eyes every few minutes when studying or writing by looking up from the book or paper; if they still feel tired, do something else for a while.

2. To read or study when tired is to overstrain the eye. Therefore, avoid night study as far as possible.

3. When using artificial light, do not let the light shine directly into the eyes. The light should come from behind you and from the left side. On no account let the artificial light come from in front.

4. When the child experiences difficulty in seeing the blackboard from the back part of the room, or suffers from headache in school, or shows evidences of eye strain, his eyes should be examined to ascertain the cause, and it should be corrected by glasses prescribed by a competent specialist.

5. When glasses have been thus prescribed, they must be worn constantly. If needed in school, they are necessary all the time.

6. Keep the glasses clean.

7. The adjustment of the frame is of as much importance as the correctness of the lenses. The child should look through the optical centre of each lens. As frames get bent and children grow, this adjustment should be made at frequent intervals.

8. Glasses ordered for astigmatism or any severe refractive error require most accurate adjustment and should be mounted in spectacle frames.

9. Eyes should be re-examined for glasses each year of school life, because eyes often change in refraction, as children grow older, and lenses suitable at one age are unsuitable at a later period.

10. The immature eyes of childhood are very susceptible to having their defective sight made worse by using glasses not suited to their special defect. They require constant and careful supervision.

As children obtain their knowledge both in and out of school chiefly through their eyes, it is essential that parents should exercise an intelligent and careful supervision. They should remember that it is better for the child to lose his chance of high marks in school than to have weak eyes for the remainder of his life.

A child's eyes are priceless. The slow progress in school of many a boy or girl is due to poor eyesight, which might easily, in most cases, be remedied by the use of proper glasses.

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The opinions expressed and statistics quoted by writers of articles and papers appearing herein are the opinions and statistics of the authors only.

THE COMMISSION OF CONSERVATION

The Commission of Conservation is a Public Intelligence Bureau with respect to the natural resources of Canada. Although it has no administrative functions, it stands consistently for careful and scientific utilization of those resources.

PARKS AND PLAYGROUNDS IN CITIES

PROBABLY there never was a time when it was as important as it is at present to develop outdoor recreation and to improve the park areas and playgrounds of our cities.

In proportion as we close the saloon we must open and extend the park; as we shorten the hours of labour and extend manufacturing, we must provide facilities for healthy, outdoor recreation; as we enlarge our cities we must enlarge their lungs. In proportion as we extend the uses of the automobile and develop good roads we must have playgrounds to enable children to play in safety.

With regard to the first matter it will ever be true that constructive temperance reform is to be found only in healthy means of recreation and social intercourse. Whatever efforts we may make to prevent men from abusing themselves and their time in the saloon will fail unless we provide the means for them to find healthy recreation. The greatest constructive social reformers in England have found from long experience that good housing conditions and recreation facilities were the only permanent antidotes to intemperance. Mr. George Cadbury at Bournville, Mrs. Barnett at Hampstead, and others, have given valuable demonstrations of that fact. There is also need for healthy occupation for the leisure time of the workers as a means of maintaining industrial efficiency.

Employers and employees are not quite agreed as to whether the same production can be secured with an eight-hour as with a nine-hour day. Does it not partly depend on how the leisure time of the worker is occupied? Those captains of industry who have succeeded in making the shorter working day profitable to themselves did it by providing their workpeople with opportunities for recreation and education. A man may use his spare time to make himself either a better or a worse instrument of production. Owing to the nervous strain caused by modern industrial methods, it is almost necessary to have shorter hours than in the past, but if they are to be obtained without loss of production we must see to it that the time outside of the working hours is profitably used. Both in Britain and the United States hundreds of millions of dollars were spent in building model houses and laying out recreation grounds as a means of increasing output of munitions during the war.

CITIES WILL CONTINUE TO GROW.—Whatever we in Canada may do to increase our agricultural population we are going to have growing cities. As these cities grow and a larger proportion of our people become urbanized, the health and morals of our citizens need not deteriorate if our housing and recreation facilities are developed in a proper degree. Deterioration is now taking place, and is due in a large measure to the absence of these facilities in our industrial areas.

The motor car is only in its infancy, but even now our streets are more dangerous than our railways. Apart from danger to life from accident, the dusty roads are not healthy places for children to play on, and, as they are better paved and fast traffic increases, they will become greater danger traps for our children.

We want bigger ideas about the provision we should make for parks and playgrounds.

In city development there are several sound reasons to justify the acquisition of park lands at an early stage of building development, not the least of which is their direct effect upon the value of city property, and, therefore, their indirect influence upon the city's income from the taxation of land. It has been found in the case of Madison, Wisconsin, that new parks not only meet all charges, but, by reason of the increased value of adjoining property, paid into the city treasury not less than \$10,000 a year in increased taxes. A similar state of affairs exists in New York, where the amount collected (in taxes) in twenty-five years on the property of the three wards (contiguous to Central Park) over and above the ordinary increase in the taxable value of the real estate in the rest of the city, was \$65,000,000, or about \$21,000,000 more than the aggregate expense attending and following the establishment of the park until 1914. In other words, in addition to acquiring lands valued at \$20,000,000, the city of New York has made \$21,000,000 in cash out of this transaction. (The original price paid for the 840 acres forming Central Park was \$6,664,500).

Baltimore has nearly fifty parks, with a total area of 2,402 acres, for which the city has paid a direct cost of only about \$10,000. The cost has been met out of the city's percentage of the gross receipts of the street railway company.

Every city should have its Park Board. In Canada out of 94 cities to whom inquiries were addressed, 54 had a Park Board or Commissioner.

PARKS AREAS IN CANADA.—To find out how we stand in Canada as regards park areas, let us compare 9 of our cities with several cities in the United States and in Europe. We will find that in spite of our great abundance of land we have room for improvement. Montreal falls below the standard of New York and London, while Vancouver and Edmonton compare favourably with Washington in the acreage of park space available per capita.

The following table gives the percentage of total area of 9 Canadian cities devoted to parks and the population per acre of park:—

City	Percentage of area in parks	Acreage of park per capita
Vancouver.....	13.6	1 acre to 69.3 persons
Halifax.....	8.2	" 140.9 "
Hamilton.....	7.7	" 200.3 "
Toronto.....	7.3	" 247.8 "
Winnipeg.....	4.1	" 314 "
Ottawa.....	3.7	" 514.3 "
Edmonton.....	3.5	" 54.8 "
Montreal.....	3.2	" 773.8 "
Regina.....	3	" 155.6 "

In the United States the percentages are as follows in nine cities:—

City	Percentage of area parks	Acreage of parks per capita
Washington.....	14	1 acre to 69 persons
Boston.....	13	" 207 "
Baltimore.....	12	" 241 "
Rochester.....	11	" 133 "
St. Louis.....	7	" 266 "
Philadelphia.....	6	" 322 "
Kansas City.....	5	" 144 "
New York.....	4.1	" 689 "
Chicago.....	4	" 545 "

In Europe, Paris has the largest park area, having 26 per cent in parks, or 1 acre to every 554 persons. Dusseldorf, Germany, has 10 per cent in parks, or one acre to every 149 persons, and London County has 9 per cent in parks, or 1 acre to 677 persons. The United States cities show up the best, but Edmonton has the largest area per capita, while Vancouver shows the best results in Canada and in the United States both per capita and in respect of the percentage of its area. Ottawa, in spite of its very fine parks, is low in the list, but it has a large park area outside the city boundaries, although other cities have the same.

Of the small towns, Truro, N.S., has one acre to every 7.5 persons and is superior to every other city or town, while St. Hyacinthe has only one acre to every 4,076 persons.

More ample facilities should be made in our parks for recreation, and more encouragement should be given to athletics.

We have splendid opportunities to develop a public golf course and only a little effort is needed to provide what would be a great public boon. We need to spend some of our money in getting utility as well as beauty.

ENCOURAGE ATHLETICS.—Greater use should be made of Exhibition grounds to encourage athletics—to develop the energies and physical fitness of our people. If public money was used for this purpose it would be as beneficial as the money spent in improving farm stock.

The planning of our parks and athletic grounds needs more attention. In some of our newer building developments we are providing that not less than one acre in every ten should be left as an open space for public use. The laws of Alberta and Saskatchewan lay down this standard for new subdivisions.

In the Ottawa Housing schemes facilities are provided for outdoor recreation for the residents, from 12 to 14 per cent of the areas being reserved for open spaces. Much of the land that is usually wasted in unnecessary streets has been set aside for tennis courts and children's playgrounds.

If only 10 per cent of each area were provided for open space, that would be about one acre for every 45 persons, or over ten times as much as the rest of the city of Ottawa. It is even superior to the high standard of Vancouver, taking the city as a whole.

Parks and recreation grounds should be spread about our cities and neither too concentrated in one place or too far distant from the homes of the people. Perhaps less could be spent on artificial adornment and more in making them useful. One of the best evidences of their utility and popularity is that most cities resist most strongly any attempt to reduce their area or to take them away.

LEGISLATION NEEDED IN ONTARIO.—In Ontario we need a more comprehensive town planning and development act. The Ontario cities have not adequate powers to prepare schemes covering the development of park areas and suburban lands. The preparation of comprehensive city and town planning schemes is needed to enable us to obtain provision for parks and playgrounds on a reasonable scale suitable for a healthy population.

Land that is least adaptable for building or agriculture is frequently most suitable for parks and parkways. Often level areas, which are, by reason of floods in the spring, badly adapted for building, are excellently suited for athletic fields. The Athletic Union should co-operate with the cities in getting a large power to prepare proper planning and to acquire new areas for parks and playgrounds in advance of development.

We also need national and provincial effort to purchase large forest areas outside of our cities as holiday playgrounds. Chicago is co-operating with the county outside to acquire 30,000 acres of forest lands for this purpose, and has already bought 16,000 acres. The provision of parks and playgrounds, if the land is purchased at reasonable cost, does not add materially to the tax burden of the community. The increased value these open spaces give to adjacent land counterbalances the cost of acquiring them. If the city or town could assess these adjacent lands so as to obtain a contribution to the cost of new parks it would be perfectly equitable for them to do so and would aid materially in the solution of the question of cost.

Moreover, the municipality within which such parks would be situated would derive increased revenue from the added assessment given to the adjacent property, as is proved in the figures quoted in this paper. The greatest benefit from the parks will, however, be derived from the increased health and, consequently, greater efficiency, of the population. Parks are a better investment than hospitals and asylums, and if we do not spend the money on the one we shall be compelled to spend it on the other in greater degree than is needed if we exercise proper judgment and foresight.

COST OF PARK AREAS.—There are many cases where park areas, when bought in advance of development, do not cost more than \$100 to \$1,000 per acre. At Ruislip, in the vicinity of London, England, a park area adjoining a town fifteen miles from Charing Cross was bought for \$350 per acre in 1913, and at Chicago the forest reservations were being bought at from \$150 to \$1,000 per acre. The average cost of the Vancouver parks (other than Stanley park) was over \$15,000 an acre, and, in the case of Woodland playgrounds, the cost was \$43,203 an acre. If Vancouver had set aside its open spaces well in advance of development it might have bought 580 acres at the same price or less than the 58 acres it has purchased for \$905,456.

Where open spaces are obtained in advance of development owners of land are often willing to give them free of cost because of the benefit that accrues to the remainder of the property. Obviously they obtain no advantage if the park is acquired after they sold the adjacent land for building, and in these cases the city is compelled to pay building prices for what they require and give a present of the increment of value to the adjacent property owners.

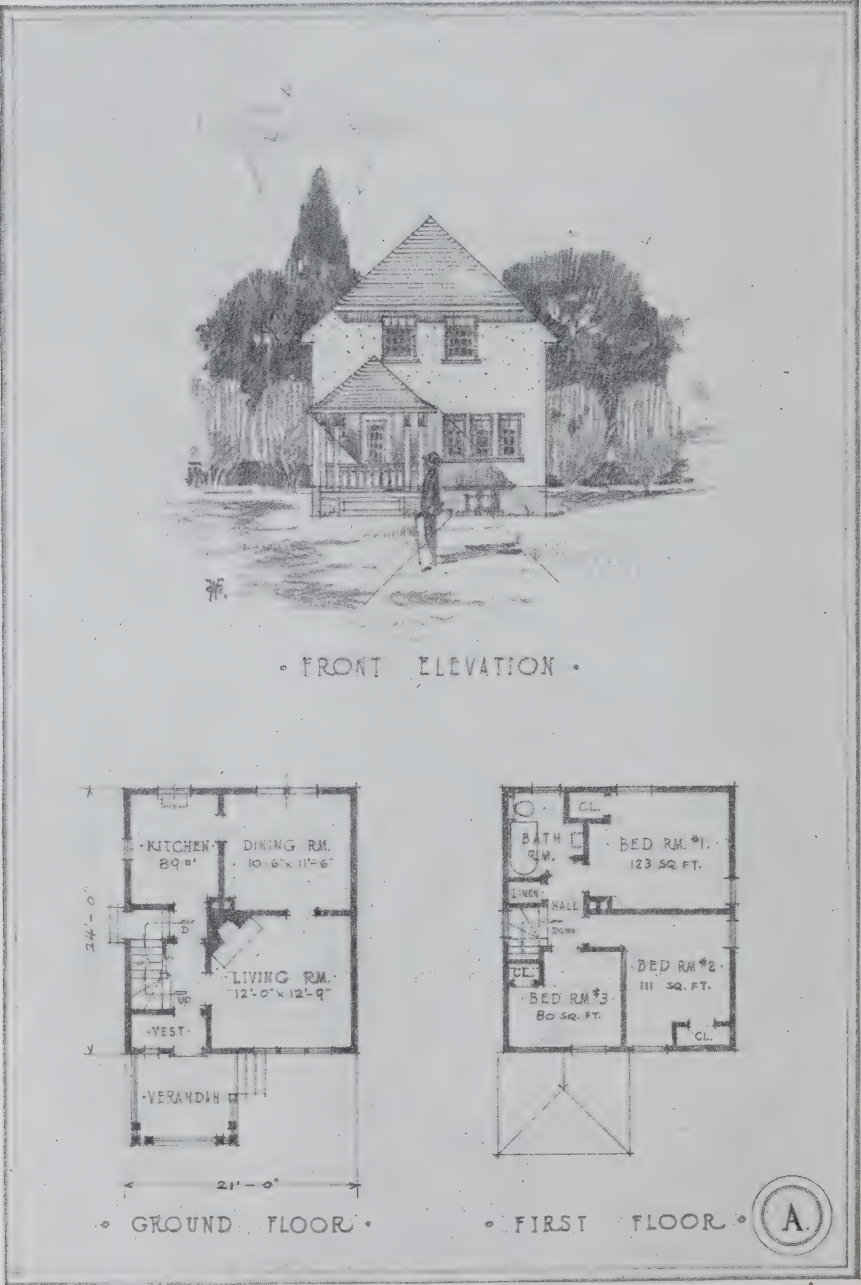
When we have proper town planning we shall get adequate parks and playgrounds, because we shall acquire them at a sufficiently low cost to enable us to reserve large areas without adding to the burden of taxation.—*Thomas Adams.*

THE FEDERAL HOUSING PROJECT

THE following is a brief summary of what has been accomplished under the terms of the Federal loan in the Provinces of the Dominion, with particular reference to the advantages granted by the various Provincial Acts to returned soldiers as compared with ordinary civilians.

Prince Edward Island.—Act passed but no general housing scheme prepared. According to the Act a soldier, or the widow or the widowed mother of a soldier, may be advanced 90 per cent of the value of the house, land and improvements, where land is owned by the Housing Commission. Civilians must purchase land from the Commission and are advanced 90 per cent of the value of house and improvements. In general a municipality is required to deposit debentures with the Province as security.





ONTARIO HOUSING COMMISSION STANDARD

Type A adapted from Type A of Federal Housing and Town Planning Branch.

Cost

Frame, clapboard or stucco finish	\$ 2,850
Brick veneer	3,200
Solid brick	3,450

Nova Scotia.—Act passed and Federal conditions complied with. Soldier, widow or widowed mother may be advanced 100 per cent of the value of house, land and improvements, where the land has been acquired by a Housing Commission. Civilians must purchase the land (or advance 10 per cent of the value of house, land and improvements) from Commission. Municipality deposits debentures with Province without limiting borrowing powers. Several towns have appointed Housing Commissions, and it is expected that there will be at least 100 houses commenced in the spring.

New Brunswick.—Act passed and Federal conditions complied with. The Act mentions "particularly returned soldiers." Municipality provides security without limiting borrowing powers. Some 50 houses (all frame without heating) have been built in New Brunswick under the Act.

Quebec.—Act passed and Federal conditions complied with. Preamble to Act states "particularly for returned soldiers and workmen of town." Municipality arranges for loan without limiting its borrowing powers. It is understood that, altogether, some 20 houses are now completed or in course of erection. There is, however, a large programme for next year.

Ontario.—Act passed and Federal conditions complied with. A Provincial loan has also been provided. Municipalities deposit debentures with Province without limiting borrowing powers. Returned soldiers are granted the same advantages as under the Nova Scotia Act. There have been about 1,200 houses built, due to the activities of the Housing Director and an efficient technical staff, with the aid of local Housing Commission.

Manitoba.—Act passed and Federal conditions complied with. This is largely an enabling Act. Returned soldiers, as defined in the Civil Service Act, are to receive preference over all other applicants for loan. According to latest reports, the various municipalities bordering Winnipeg are taking advantage of the Act. Over 70 houses have been built and are occupied, while twice that number are in course of erection. Manitoba intends to make a Provincial grant of \$1,000,000 in addition to the Federal loan.

Saskatchewan.—Act passed applying only to returned members of His Majesty's Forces. Otherwise it is similar to the Manitoba Act and is an enabling Act only. No general housing scheme has been prepared to comply with the Federal housing conditions, therefore the Act is inoperative. This is due, it is understood, largely to the inability of the Province to recommend an increase in the borrowing powers of the municipalities at the present time.

Alberta.—No Act has yet been passed.

British Columbia.—Act passed and Federal conditions complied with. This is largely an enabling Act, and gives special preference to returned soldiers. The Government may convey free land to soldiers as defined in the Soldiers' Land Act, or to municipalities in connection with better housing for soldiers. The Act, as administered up to the present, it is understood, has applied solely to returned soldiers. There are 50 houses built and occupied, 90 houses under construction, and the number of houses expected to be built this year is between two and three hundred.

DEVELOPMENT OF INDUSTRIAL AREAS

CONGESTION, with all that it means in choked streets, dark workrooms and high taxes, has been forcing factories to our "city limits and beyond."

Industrial managers have shown extraordinary foresight, skill and ingenuity in the arrangement of their plants in the outlying areas, but no such expert planning has gone into the accompanying community development.

Huge industrial plants are uprooting themselves bodily from the cities. With households, small stores, lodges, churches, schools, clinging to them like living tendrils, they set themselves down ten miles away in the open.

While we spend years of effort in reconstructing our civic centres, only to have our schemes halted by costly obstructions of brick and mortar and suspended by condemnation proceedings, city extension as a process is going on every week and every month on the edges of our cities.

Many reasons are readily apparent for the location of these new industrial communities. The impulse toward cheap land, cheap electric power, etc., low taxes and elbow-room throws them out from the large centres of population. (These are the centrifugal forces.) The centripetal forces are equally powerful and bind them as satellites beyond the outer rings of the mother city. Even the towns like New Toronto, which have attained a considerable measure of self-sufficiency, are bound by strong economic ties. Through switch yards and belt lines, practically all the railroad facilities developed during years of growth, which are at the disposal of a downtown establishment, are at the service of the industry in the suburb. It means much to be within easy reach of at least one large market for finished product. Proximity to a big labour market is a more important factor.

Some industrial leaders contend that they are in the business of establishing mills and factories, not building cities, and that the making of a town is a matter into which they only go so far as necessity compels them. Their desire is to avoid paternalism.

The scientific thoroughness which would follow the technique of efficiency and health down to the details of street planning is illustrated in the drawings for the construction of a State prison in America. Here a study was made to determine the exact angle of compass with which the building should stand in order to secure in each twelve months the maximum amount of sunlight. If it is worth while to take such care in housing the prisoners of a state, it is but reasonable that the same care should also be expended on street plans and the housing of free city dwellers.

MUNICIPAL INTEREST IN STREET TREES

AS Canadian towns and cities increase in size and in civic ambition, the need for a progressive policy with respect to street trees becomes more and more pressing. In the earlier stages of development, the planting and care of shade trees along streets and highways has almost always been a matter of individual action and initiative. There is, however, an increasing tendency on the part of public-spirited citizens and organizations to regard the providing of shade on city streets as much a municipal enterprise as providing sidewalks or street lights. The result is a steady movement toward assumption by the city or municipality of the responsibility for a uniform policy respecting street trees.



WILSON AVE., ST. THOMAS, ONT.

Note uniformity of boulevards, the use of flower beds, and the condition of street trees, suggesting civic pride in the appearance of streets.



NATURAL CONDITIONS IMPROVED BY CARE

Residential street with minimum width of roadway and treed boulevard makes surroundings more pleasant and restful than a wide street.

This often takes form through the appointment of an honorary commission, with a paid executive officer known as the city arborist or, less appropriately, city forester. The latter official should, of course, be a thoroughly trained and experienced man, familiar with the merits and disadvantages of the various shade tree species, and with the best methods of tree planting and culture, pruning, tree surgery, and the prevention of injury by insects, fungi, animals and other natural enemies.

The lack of such a policy and the need for its adoption are evident in most of our towns and cities. Among the evidences are absence of shade trees on some of the residential streets, the planting of too many different species on others, planting of undesirable species, too close spacing of trees, improper pruning, damage by horses for lack of tree guards, damage by insects for lack of spraying, excessive damage by decay for lack of tree surgery, damage by pavements to trees and by trees to pavements, etc. All these points should receive intelligent consideration in any comprehensive programme relating to city or municipal street trees.

It is obvious, however, that the official who should have the active direction of this work must, if the desired results are to be secured, be not only a trained specialist but a thoroughly practical man as well. The ordinary "tree trimmer," while perhaps very competent in his own particular line, can by no means comply with all the specifications required for the position of city arborist. Some of the educational institutions, particularly in the United States, make a specialty of training men for this class of work, and many of the cities in that country are availing themselves of the services of these specialists.

In addition to the unquestionably great value of street trees from the viewpoint of beautifying the city, there is no doubt but that they also contribute appreciably toward the health of the community by transpiring moisture into the atmosphere and by producing a restful effect on the eyes and nerves.

As cities grow in population, conditions become more and more unfavourable to the growth of street trees, and it becomes increasingly difficult for the individual to secure successful results, to say nothing of the certain lack of uniformity where reliance is placed upon individual initiative.

The modern way is for this matter to be handled as a city or municipal enterprise, under the immediate direction of a thoroughly trained and experienced specialist.

Some of our western cities have shown commendable foresight in their street policies. In addition to keeping sidewalks and roadways in good condition, the boulevards are made, the grass kept cut and watered, and shade trees planted and taken care of. The result is a uniformity and harmony in the appearance of the street, the trees are kept in good order, and are well protected by the municipality. Under such conditions, the public take a just pride in the appearance of their streets, and are also influenced in keeping adjoining property in like condition.—*Clyde Leavitt.*

PROTECTING THE WATER SUPPLY

RAW sewage is still being discharged into our various rivers, lakes and harbours.

In many cases, this pollution endangers neighbouring water supplies as well as those situated at other points along the same waterway. For the protection of the public, the sewage should be treated before discharge. Many methods of sewage treatment are practical and

efficient, the choice of a process depending largely upon local conditions and the nature of the wastes discharged.

A New England city of 160,000 population has a sewage problem that required solution. The main sewers discharged into a harbour at five different points, and an exhaustive study made by the United States Public Health Service revealed the fact that the harbour was grossly polluted; that shellfish taken therefrom were unfit to be eaten, and that the bathing beaches were unsanitary and unsafe.

The digestive capacity of the harbour waters renders the production of a nitrified effluent unnecessary; but a substantial removal of suspended solids and of sewage bacteria was required to avoid the sludging up of channels or pollution of bathing beaches and shellfish beds.

To determine the best methods of treatment, an experiment station was operated for 11 months—June, 1917, to April, 1918—at a cost slightly less than \$18,000. The station was situated at the principal outfall, which discharges about one-half of the total city sewage; it is also the most important one to study, on account of its high content of industrial waste. Special studies were also made of certain processes on an outfall serving a residential district.

The processes studied were (1) fine screening; (2) Imhoff treatment; (3) activated-sludge treatment, and (4) Miles acid precipitation—all but the last followed by chlorine disinfection.

The experiments, covering about one year, lead to the conclusion that, for the particular and somewhat unusual local conditions there prevailing, the Miles acid process of sewage precipitation, with recovery of grease and fertilizer, was the best for one of the four plants necessary, and may prove advantageous for the other three.

While this process was suitable for the above requirement, it may not be the best in other places or under other conditions; the desirability of installing a treatment plant and of systematically determining the most advantageous process, however, is demonstrated.—*L. G. Denis.*

CITY PLANNING TAKES TIME

REFERRING to the difficulties and delays of preparing and giving effect to city planning schemes in the United States, Mr. John Nolen writes in *The American Architect*:

"It is sometimes said that city planning schemes are not carried out. To some extent this statement is true. The execution of comprehensive city plans requires time, often a generation; also money, large sums; also authority, sometimes a change in the state laws or even in the state constitution; also the formation of favourable public opinion. Horace Bushnell, in his agitation for the first city public park in the United States, said, "Many things must be carefully prepared, as carefully watched, and persistently pushed, by the man who will get any city public into and through a great public improvement. Wearied, and worried, and hindered, he must never sleep, never be beaten, never desist, and if, by a whole five years of toil, he gets his work on far enough to become an interest in itself, and takes care of itself, he does well, and then may rest."

In Canada we cannot at present entertain city or town planning schemes which involve large expenditures of money, but we would be content with those schemes that prevent waste of money and afford protection to investors in property by means of reasonable restrictions and preventable measures. To reach even that stage, however, will need that continuous education, continued fighting against primitive thinking, and contentment with gradual progress.

THE FUTURE OF OTTAWA

IN the discussions that occasionally take place regarding the future of Ottawa and the planning of its public buildings I do not think the citizens of Canada ever rise to a high enough conception of what that future is likely to be, or appreciate in a sufficient degree the national responsibility.

A CAPITAL OF CAPITALS.—Ottawa is not only a capital—it is as Viscount Bryce described Washington, a capital of capitals. It is the capital of nine free commonwealths, each with a capital of its own. Its fair site is worthy of its great traditions and greater destiny.

Those who live in the capital should have a high aim for its future and work to achieve that aim. Those who come to it as citizens of Canada should come to it with a sentiment of pride and reverence. Those who come to it as strangers should behold a city that gives true conception of the dignity of Canada.

PARIS, WASHINGTON AND EDINBURGH.—There are three cities in the world that should give us inspiration to build up the Ottawa of the future in the right way. They are Paris, Washington and Edinburgh, all of which were planned, and have reaped a material reward more than commensurate with the cost. Washington and Edinburgh were planned at the same time, at the end of the eighteenth century, and Paris was replanned in the middle of the nineteenth century. We have a better site than either Paris or Washington and as fine a site as Edinburgh. The Germans have made a beautiful, if congested, city of Berlin on sandy waste. London is beautiful with all its disorder, although laid out on a level plain. We can so add to the beauty that has been given to us by nature that this may become one of the most beautiful capitals in the world. That we have done much in the past is only a reason for doing more. Our danger is the danger that came to London in the seventeenth century when Christopher Wren prepared a plan and it was allowed to lie unused, or the danger that threatened Edinburgh when the suggestion was once made to build up its open spaces in the early days of its planning.

From a purely material standpoint London has lost and Paris, Washington and Edinburgh have gained. An American has made the estimate that his countrymen, who visited Paris in the summer months of 1909, spent at least \$2,000,000 per day. As we beautify Ottawa we shall make it the mecca of hundreds of thousands of visitors, for it possesses the natural advantages to draw them here. Whereas Paris has spent hundreds of millions on replanning, we need only spend a few millions in giving execution to our plan—for we need only preserve, whereas they had to create—we can prevent what they had to cure.

IMMEDIATE DUTY.—Our immediate duty is to study the plan we have had prepared and to carry out our immediate schemes in keeping with the plan, but with due regard to the resources we have available. We must not let ourselves be drawn into extravagant projects that frighten the people and do as much harm as doing nothing. There is no need for stampeding the citizens into schemes that will cost millions at once—we should have an ideal to work to and build up gradually towards its attainment.

The worst part of Ottawa is the disorderly development on the water-front of the Canal—what everybody sees as he enters the city. We should not have a backyard at our front entrance. The old Greeks knew better when they made the portals the most beautiful parts of their cities. We need to make the backyard of our City Hall into the front yard of the city. We need co-operation between the Federal Govern-

ment, the City Council and the citizens, and the citizens should be the first to organize.

THE OTTAWA PLAN.—The plan prepared for Ottawa has many satisfactory features which should be definitely approved by the Government and the city. It seems a great misfortune that the plan has been so completely ignored since its preparation at a great cost in money. Many of these features would not involve either the Government or the city in any expense over and above what would be necessary in any case if no plan were followed.

Other features that involve a large expenditure of money and are, therefore, regarded as somewhat impractical, should be studied with a view to adjustment to what is practical.

Like the plans of Washington and Chicago, the Ottawa plan is not complete. In the case of Washington the plan of L'Enfant has been



APARTMENT HOUSE, ST. PATRICK ST., OTTAWA.

This building has now been destroyed as unsafe after causing serious depreciation to adjoining property. It was never completed and all the money invested in it was lost.

Note also billboards overlooking the King Edward Avenue Boulevard.

followed by the American Government with some unfortunate modifications in detail. Latterly there has been a tendency to refer back to the original plan and get rid of the objectionable features that have been permitted to creep in.

ZONING.—But the plans of Washington and of Ottawa do not deal with the important question of zoning the cities into districts for the purpose of controlling the character, height and density of buildings in the cities. This defect is being removed in Washington, and a commission in control of the city's affairs, under the United States Government, is now authorized to employ experts to prepare a zoning plan of the city to supplement the lay-out plan of L'Enfant.

Washington has experienced the bad results of indiscriminate mixing of buildings, and, in spite of its plan, factories are being put in the wrong place, to the injury of industry and the greater injury of residences and real estate value. Businesses, including stores and public garages, have been erected in positions that have destroyed values in whole neighbourhoods. The New York example of a zoning plan, with its success in preventing depreciation of property, has stimulated the authorities in Washington to action.

Among other things, it is proposed to control the erection of apartment houses in residential districts, so as to prevent the injury they cause to private residences.

Washington, however, has really less reason for a zoning plan than Ottawa. It is doubtful if there is any city upon this continent that

has suffered more from indiscriminate mixing of different classes of building, and particularly from the crowding of apartment houses in residential streets. The apartment house that covers from seventy-five to one hundred per cent of the lot, that is built out to the street line, and rises from four to six storeys in height, has been allowed to blight nearly every residential street in the city. The result is that there is no security for those who own separate dwellings, and serious depreciation has taken place which could have been avoided by proper restrictions.

It is estimated by Mr. Edward Bassett that New York will save one billion dollars in the next twenty years in real estate values as a result of its zoning regulations. Meanwhile, in Ottawa, everyone who wants to erect a home is discouraged by the fact that he has no security for his investment owing to the latitude given to owners of



VIEW OF UNION BANK BUILDING FROM THE TERRACE OF THE NEW PARLIAMENT BUILDING
OTTAWA.

Note injurious effect on Langevin Block. Birks' building, just off the right of the picture is still more injurious to the prospect from the terrace.

adjacent lots who take away his light and air and destroy his surroundings.

In one American city which I recently visited the lots facing the street where the surroundings were open and under control were valued at \$12,000 while similar lots that were not under control as to their surroundings could be obtained for about one-sixth of that amount.

This indicates the enormous value of proper restrictions and the loss that accrues from their absence. The value of any house is about as much a matter of the surroundings as it is a matter of building construction. The depreciation caused by the lack of control of the surroundings cannot be prevented by individual citizens but only by regulations under a plan.

It is not suggested that apartment houses are undesirable any more than factories. It is merely contended that they should be put in a place where they will not injure other classes of building and that they should have ample provision for light and air on the lots on which they are erected.

HIGH BUILDING.—Ottawa being a capital city, having large sums of money invested in public buildings, should also have protection provided for the surroundings of these buildings. The view from the front of the ten million-dollar Parliament building just erected is seriously impaired by the excessive height of two or three buildings fronting on Sparks Street.

In the United States, the particular birth-place of high buildings, the view is gaining ground among real estate interests that the most satisfactory height is eight storeys, and that no building should be higher than the width of the street on which it fronts. High buildings are not objected to from aesthetic grounds but on the grounds of economy.

The deleterious effect of the high building on its surroundings, however artistic a building may be, may be gathered from the story of the Equitable Life building in New York. This building is about forty storeys in height, and has streets on all four sides. It is a beautiful building, and, unlike some of the high buildings in Ottawa, it has no "Mary Ann" back. Before it was erected the owners of adjacent property asked the Equitable Life Company what it would take as compensation to limit the height of the building to ten storeys. The answer was \$2,500,000. The adjacent owners collected \$2,250,000 among them, but one owner was unable to find the other quarter million owing to uncertainty of tenure, or some similar reason. The negotiations fell through and the high building was erected, casting a shadow over seven and one-half acres, with the sun at its height. The result has been not only enormous congestion, with great expense to the community in dealing with the traffic but, as the above figures show, has meant depreciation of adjoining property, quoted at \$2,500,000. It is questionable if the Equitable Life Company has really derived any benefit from erecting the high building and a better return of its investment than could have been obtained with a much lower building.

The point, however, is that owing to lack of restrictions one company was permitted to do such serious injury to the owners of adjoining lots and to the community as a whole. Since the building was erected New York has been zoned to prevent this kind of thing happening in future. Ottawa has no regulations to give similar security to the community and the owners of property.

It may be that the formation of a *Committee of One Hundred* will cause the citizens of Ottawa to discuss their plan and to find some remedy for the present anarchy in regard to building construction. With proper building regulations capital will be less timid and will be attracted to the city. The prevailing assumption that town planning is merely an aesthetic fad is shown by these statements to be entirely wrong. It is on economic grounds that we need town planning and proper zoning. Orderly development and health will produce beauty without seeking beauty as an end in itself.—*Thomas Adams.*

A GOOD INVESTMENT

DOMINION OF CANADA SAVINGS CERTIFICATES ARE PAYABLE THREE YEARS FROM DATE OF ISSUE. FOR \$4.25 A \$5 CERTIFICATE CAN BE PURCHASED; FOR \$8.50 A \$10 ONE; FOR \$21.25 A \$25; FOR \$42.50 A \$50, AND FOR \$85 A \$100 CERTIFICATE.

These Certificates can be cashed at any time at any Bank or Money Order Post Office. Interest is allowed, dependent upon the length of time the Certificate has been held.

IMPROVEMENT OF SLUM AREAS

THERE is probably no more common objection to schemes that have for their object the erection of new dwellings in suburban areas than that which is made by the housing reformer, who looks upon the improvement of slum areas as the only way to solve the housing problem. But it is just as easy to place too much emphasis on providing remedies for the slum problem within the slum areas themselves as it is to be too much concerned about building new houses and carrying out town planning schemes with the danger of neglecting the slum problem. If we confine all our attention to the curing of the evils in congested areas, we can never catch up with the problem, as new slums will go on being created in newly developed areas for want of preventive measures.

The creation of garden suburbs, with houses for workmen, and in a position where the homes are convenient to places of employment, does have the effect of indirectly relieving congestion in crowded areas. If this kind of scheme were carried out on a sufficiently large scale, it would



SLUM DWELLERS IN A CANADIAN CITY

greatly help to improve the slum area, by setting up standards to be followed in some degree by the owners of property in the crowded central areas.

Undoubtedly, however, the proper procedure in this matter, as in all matters of city development, is to take a comprehensive view of the whole problem, and not to deal with it in components, except in the degree that such components are linked up with a general scheme.

The clearance of slum areas is always costly, and one of the reasons it is so is the lack of proper power to expropriate slum property without having to pay compensation for rights of ownership that should not exist.

When property becomes sufficiently unwholesome for habitation as to be legally "unhealthy" there should be no capital value attached to that property for purposes of habitation. In other words, the owners should either be compelled to make the property habitable before they

are permitted to rent it, or to permit it to be demolished without being compensated. When it is found necessary for the city to acquire such property, the payment therefor should be limited to the value of the land plus the value of the materials, except with regard to property that can be used for a healthy purpose.

SLUM CLEARANCE IN ENGLAND.—The new English housing law provides for the acquisition of slum property on this basis. There, the policy and practice now followed after long and extensive experience, is sound. The most important rules that have to be followed are:—

(1) The making of a comprehensive survey of any district in which there are slum areas; the scheduling of areas which are unhealthy; differentiating between those which need immediate treatment and those which will have to be dealt with at later stages;

(2) On the basis of the survey, preparing a definite programme for dealing with all the slum areas in the district, and carrying out the work in steps towards the fulfilment of that programme;

(3) Preparing schemes for the more urgent areas, dealing with them bit by bit as part of the complete plan;

(4) In preparing schemes, considering whether the evils of slum areas can be removed without wholesale clearance of the buildings, and by such methods as getting rid of individual buildings that obstruct light and air, or renovating the buildings, or by placing them under good management.

(5) When a site has to be cleared, it should be planned not merely for the purpose of providing houses in substitution for those destroyed, but with due regard to the use that can be made of the plan in improving the means of communication through the area, and generally how it can be made to fit in to the best advantage with the plan of the whole town. This means that the plan for the future development of towns or cities should be prepared in advance of the slum clearance scheme. It is futile to carry out such a scheme at great cost merely to relieve temporarily existing conditions. A permanent improvement should be sought.

In both England and Canada, regard should be paid, in dealing with slum areas, to protection of old buildings of an architectural charm or an historical value. These are often unsanitary, but it may be worth the cost to renovate them, rather than demolish them.

SURVEY.—As stated, the first duty of local authorities in England is to undertake a survey of their districts, in which the slum areas would be defined and estimates given. Where the problem is pressing, this may have to be confined to a study of the slum areas without regard to their forms of development, but it would be better, where possible, to make the survey part of a comprehensive and detailed survey of the city or town. This is not required under the English scheme, but is important.

The English policy also insists that a continuous survey should be made in the form of a periodical study of the problem, including records of the incidence of disease and death in the different areas. A large scale map should be kept to show by different colours the existing conditions.

Having ascertained what the conditions are, and what remedies are required, the next step is to prepare and submit schemes for securing the needed remedies. These schemes have to be submitted in three stages, within definite periods, and only detailed schemes are required for those parts of the proposals that require sanction of the government and involve the borrowing of money.

Certain conditions have to be complied with. At present the shortage of houses makes it necessary that these slum clearance schemes should not involve the turning of persons out of the present houses until new accommodation is available. Reasonable consideration has

to be given to the rights of owners, and demolition should only be proceeded with, and even then very cautiously, where houses are totally unfit. Existing dwellings should be improved where practicable, in preference to demolition, and special consideration should be given to preserving buildings having historical or aesthetic value.

England is divided into regions for the purpose of housing administration. Regional organization covers wide areas and does not follow any scheme for planning the regions as a basis for a town planning and housing policy. It would seem preferable to have the regions of a smaller size and fixed so as to form suitable units for industrial or rural development. The housing scheme, including slum clearance schemes, should then be made to conform to a regional scheme.

In dealing with a matter of this kind it is essential to have a judicial authority as a board of appeal, and to hold public hearings to give full opportunity for consideration of the objections.

ENGLISH HOUSING STANDARDS.—In the manual used by the British Government it is pointed out that two different standards have to be considered in regard to housing accommodation. There is what may



RESULT OF INJURIOUS SPECULATION IN THE SUBURBS OF A CANADIAN CITY

Most of the surrounding land is lying idle.

be termed the standard of mere fitness, which implies that a house is free from any defects that would render it unfit for habitation. There is also a higher standard, which implies that the house is not only free from these defects but has the advantages and the amenities which are desirable for a healthy and contented home life. The former may be all that can be obtained under slum improvement schemes, and the latter may be the result of new housing.

The minimum standard requires that a fit house should be free of serious dampness; satisfactorily lighted and ventilated; properly drained, provided with adequate sanitary conveniences, and with a sink and suitable arrangements for disposal of slop water; in good general repair; a satisfactory water supply; adequate washing accommodation;

adequate facilities for preparing and cooking food; a well ventilated place for food.

APPLICATION OF STANDARDS TO CANADA.—A similar standard of fitness should apply in Canada. As in England, dampness is one of the worst defects in Canadian houses that may be regarded as unfit. As a standard of light, a living-room should not require artificial light during ordinary daylight. Proper ventilation involves having outside space for circulation, as well as means of circulation within the dwelling. Sanitary conveniences and water supply should conform to the requirements of the local board of health, with due regard to city and country conditions, and a tap within the dwelling with a supply of water from an uncontaminated source should be necessary. In regard to general repairs, Canada suffers most from defective paving of yards or no paving with the result that foul water is allowed to accumulate on the surface and become impregnated with the soil.

The procedure followed in England is not quite adaptable to Canadian conditions. When the proper kind of policy is adopted, the method of carrying it out can be arranged under by-law.

The urgent need is to determine what is an unhealthy area or an unhealthy house, to insist on a minimum standard for all houses and then to secure the proper legislation for enforcing this standard.

Under the English Act an area is unhealthy because of defects of planning; for instance, the existence of narrow streets or congested buildings would be such a defect; or because of defects of individual houses such as want of sanitary conveniences, etc. Definite evidence has to be given to prove that an area is unhealthy, so as to justify the steps that have to be taken to demolish buildings or improve them. During the carrying out of the scheme temporary housing accommodation has to be provided if permanent accommodation is not available for the persons displaced.

It will thus be seen that a definite constructive policy for dealing with the slums is now in operation in England and that the excessive regard for property rights that has retarded the improvement of slum areas is now at an end. There should not be property rights in dwellings used for human habitation that are a menace to the health, morality and well-being of the race. That is a lesson that needs to be learned in all countries.—*Thomas Adams.*

PROVINCIAL HOUSING IN ONTARIO

THE work of the Ontario Housing Commission during the year of its operation under the Act of 1919 should be sufficient proof, to those still hesitating as to the wisdom and practicability of a housing project, that the towns and cities of Canada are ready to respond to a progressive and vigorous policy to assist the thousands of bewildered and distressed homeseekers.

During the year 99 municipalities in Ontario passed bylaws under the provisions of the Act and appointed Housing Commissions, including 19 cities, 49 towns, 17 villages and 14 townships. Houses have been built in 68 municipalities, and in the remainder programmes have been prepared with a view to building activity during the present season.

In addition to the municipal housing commissions, private companies have also been incorporated under the Act, at Hawkesbury, Hamilton, Fergus, Iroquois Falls, Listowel, Kitchener and Waterloo, and some of these have already commenced operations.

The appropriation to the municipalities of Ontario during 1919 was \$10,629,000. Of this amount \$5,125,000 was appropriated to 17 cities; \$3,649,000 to 39 towns; \$735,000 to 17 villages and \$1,120,000

to 11 townships. It is estimated that \$8,000,000 more would have been required under the Act of 1919 if all the demands were satisfied.

The houses built number 1,184 and the average loan per house was \$3,106.40, which, with the cost of building estimated as 125 per cent higher than before the war, must be considered satisfactory. Frame buildings number 448, solid brick 460 and brick-veneer 276, 1,060 being detached houses and 124 semi-detached. The houses have been planned so as to secure the maximum accommodation at a minimum of expense. There has been active discouragement of small and narrow lots, and, with the exception of Toronto, the price of building lots has been reasonable. Outside of Toronto and the Windsor district the average frontage of lots has been 40 feet with a depth of 100 feet. The average cost per lot has worked out at \$377.85, which is approximately \$10 per foot frontage.

The price of building lots, as revealed by the transactions of the various local commissions, is interesting and is indicated as follows:—Sudbury, \$600; Ottawa, 493.90; New Toronto, \$466.02; Welland, \$356.25; Hawkesbury, \$300; Brantford, \$300; Acton, \$285.71; London, \$261.11; Guelph, \$257.27; Galt, \$250; St. Catharines, \$211.14; Milverton, \$175; Oshawa, \$162.25; and Elmira, \$160.

It is worthy of note that the occupants of the new houses are finding that the monthly payments for principal and interest, including taxes and insurance, are less than the rentals for similar houses in the same municipalities.

In all cases where practicable prospective owners have been encouraged to work on their own house, this with a view to keeping down the amount of the loan required and to encourage craftsmanship and wholesome exercise of the creative instinct. It has also been proved, contrary to the accepted theory, that bungalows, consisting of cellar and all living and sleeping rooms on the ground floor, can be erected at less cost than houses of two storeys. This is attributed to the saving in the cost of labour by a reduced need of hoisting material.

The Chief Architect, Mr. James Govan, considers that the project has proved that houses three rooms deep are not necessary or desirable except on unusually wide lots or in very special cases on very narrow lots, and he does not think that the verandah placed across the front of the house justifies itself in a climate where it can only be used for a few months of the year and where its effect is to shut out the sunlight throughout the entire year. Mr. Govan also points out that where local commissions can secure large blocks of land and build houses in quantities opportunities for town planning present themselves that should not be neglected.

CONSERVATION AND DEVELOPMENT

HAS the rural policy in Canada in the past had conservation and development of life as its final aim?

The land question, and all questions of conservation of natural resources, are fundamental questions, because they have to do with life. The final aim of all effort, whether individual or social, is life itself, its preservation and increase in quantity or quality or both.

Conservation means economy and development at the same time. To conserve the forests means to prevent waste—for without that prevention there cannot be economy—and, simultaneously, to develop new growth. To conserve land resources means to prevent deterioration of the productive uses of the land that has already been equipped and

improved, and simultaneously to develop more intensive use of such land, as well as to open up and improve new lands. To conserve human resources means to increase the quantity and quality of human activity that can be applied to production; to lessen social evils and injury to health under established conditions—a matter of economy—and simultaneously to develop conditions in the future which will remove the causes of such evils, a matter of still greater economy. Hence to conserve human and natural resources means not only to prevent waste in what we have but also to plan and develop for future growth. Considered in that sense nearly every social problem in Canada is a problem of conservation.

Out of the total area of 2,386,985,600 acres of land in Canada, it is computed that 358,162,190 acres of land are capable of being used for productive purposes. The estimated population of the Dominion is approximately 9,000,000, or 2.1 persons to each square mile of territory. We have about one mile of railway to every 200 persons. Our natural resources may be said to be unlimited in extent, subject to proper conservation and development; and the main railways may be regarded as capable of meeting demands for many years to come. But, while there is practically an unlimited quantity of natural resources, and of railways to distribute them, we are limited in the economic use to which we can put them. Wealth is produced not from the existence of natural resources but from the conversion of these resources into some form for human use. Canada is seriously limited in actual resources by the extent to which it lacks sufficient population to apply the human activity necessary to adequately use and distribute its resources. Hence there is nothing so vital in the interests of production in Canada as to conserve and develop human life—not merely to conserve the physical qualities, but also to develop the intellectual qualities.—*Rural Planning and Development*.

BOARD AND LODGING CONDITIONS IN TORONTO

A SURVEY of board and lodging accommodation in Toronto was made by the students of the class on "Industrial Investigation" (lecturer Dr. Riddell, Deputy Minister of Trades and Labour, Ontario) Social Service Department, University of Toronto, during January and February, 1920.

The Survey was made to obtain reliable data relative to the cost of living in Toronto for women and girls of the wage-earning class, to secure evidence in connection with the proposed legislation concerning a minimum wage for women in Ontario.

The houses visited by the students are mostly small apartment houses (originally they were probably private residences). They contain an average of 8 rooms per house and are situated in localities where it was believed working girls would be most likely to seek accommodation, and in proximity to the business section of the city. The streets selected were Jarvis, Bathurst, Dundas, Carlton, McCaul, Palmerston and Elm streets, Spadina avenue and Beverley road. Houses advertising or displaying cards for rooms to let were visited, and the selection was haphazard.

Points Noted by the Investigators.—The following points were especially noted, with a view to obtaining data as to the accommodation available, and to the cost for the same. Location, external and internal appearance of house; number of rooms in house, number of occupants and sex of the latter; size, heating, and furnishing of rooms; number of windows; number of toilets and bathrooms, and whether combined or separate; privileges, including the use of sitting-room, laundry, and housekeeping; cost of room per person and number of beds per room.

Sixty-four houses were visited, and it was ascertained that, where reliable information could be obtained, 575 people were occupying 415 rooms (these including kitchens and living rooms). In one instance it was found that five families were living in the same house. Sixty-two of the houses visited contained only one bathroom and toilet combined, one contained three of each, and one contained one bathroom and two toilets.

Heating.—20 of the houses visited were considered to be insufficiently heated.

Furnishings.—Washing facilities are seldom provided in the bedrooms and in some of the rooms visited the bedding was poor and inadequate, the mattresses being of frazzle. On the whole, however, the furnishings seem to have been fairly satisfactory.

Lighting and ventilation varied considerably. In many instances the rooms visited were particularly dark and poorly ventilated.

Privileges.—Housekeeping privileges are allowed in 15 of the houses visited; laundry facilities in 25; use of living-room in 10 cases.

Both sexes are received in the majority of cases, though in a few instances girls are only received. One or two of the landladies stated that they did not allow their lodgers to receive male visitors.

Rents charged range from \$2 to \$6 per week for single rooms, and from \$2 to \$4 per person in double rooms. As a rule, the double rooms contain only one bed. In some cases three or four persons occupy two beds in the same room.

The accommodation given is very poor, considering the high prices charged. In many instances no service is given, the lodger being required to keep her room clean herself. The prices charged in Ottawa and Toronto appear to be about the same, whilst those charged in Montreal are still higher. Rents charged for rooms in old houses in poor localities appear to be almost as high, and, in some cases, quite as high, as those in better districts. For example, one room in an old house on Elm street is rented at \$5 per week. This room is insufficiently lighted and heated, the only heat being supplied by the kitchen stovepipe which passes through the room. The mattress is a frazzle one, and the bed-covering is very scanty and inadequate. Another room, also on Elm street, is rented at \$3 per week. This room is about six feet square, and is not heated.

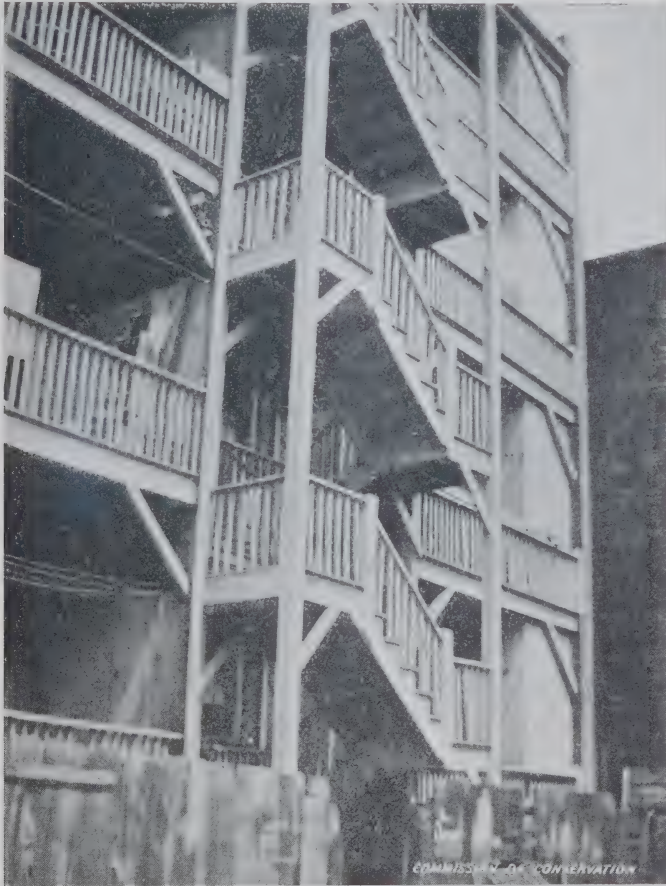
Bathroom and toilet accommodation is, on the whole, most inadequate. It is the exception to find washing facilities in the bedrooms, consequently all the roomers are obliged to wash in the bathrooms (the toilets with two exceptions, being placed in the bathrooms, as already stated). It is scarcely necessary to point out that this is a serious menace to the health and efficiency of the community.

Fire precautions are absent. Under existing legislation, houses of the size in question are not required to provide fire-escapes, and none of the houses visited was provided with fire-buckets or extinguishers. Attention has already been drawn to the fact that washing facilities are not provided in the bedrooms, therefore, the only place other than the bathroom from which water can be obtained is the kitchen. Should a fire break out, before it can be extinguished loss of life and property may ensue. The roomer usually has few personal effects, but a working girl cannot afford to lose any of her property. Though the householder's goods may be insured against fires, those of the roomer will not be included in his policy.

Absence of sitting-rooms in rooming houses is detrimental, and the moral aspect of the case is generally a serious one.

The use of double beds in rooms let to two or more roomers cannot

be too strongly condemned. In cases of sickness, as during the recent epidemic of influenza, serious risks are run when one of those sharing a bed falls sick. Many of the houses visited appear to be crowded to their capacity, and there is no possibility of isolating cases of sickness in the house. In one of the houses visited were six cases of influenza. This house contained 8 rooms and 20 occupants (this was a better class house, the rents charged being from \$2.50 to \$5 per person.)



TENEMENT HOUSE CONSTRUCTION UNDER THE LAW

In the event of fire, sixteen families must depend upon tinder-like wooden stairways and balconies as the only means of escape.

Light and Ventilation.—Too little attention is paid to the necessity of light and air to maintain efficient citizenship. Many rooms are extremely dark, and the sun's rays never enter. During the winter months the windows are kept closed to retain heat in the house. Bath-rooms and toilets may thus become extremely objectionable, and a danger to health.

While paying due regard to the liberty of the landlord, the right of the roomer to enjoy good health and protection against fire, etc., must not be overlooked. Numerically, at least, the lodger is greater than the landlord, and should he, or she, become inefficient through bad

living conditions, the financial burden must be borne by the community, while the individual becomes a burden to himself or herself.

Under the circumstances, therefore, it is advisable that the whole community should endeavour to bring about better living conditions for the increasing population.—*Edith E. Leach.*

HEALTHY DWELLINGS

THE three-flat house, or tenement, does not seem in favour in Toronto, because they believe it will degenerate into a slum. Dr. Hastings, Medical Officer of Health, has published an elaborate report on the subject, from which we extract the following passage:—

“It is universally admitted that the so-called cheap house, containing several flats, if it is not built according to all the rules of modern art, from the point of view of hygiene, and if it is not constantly inspected, tends to become rapidly a centre of physical and moral unhealthiness and to degenerate into a veritable slum.”

The Mayor of Cincinnati said recently, that the city of which he is the first magistrate spent annually \$550,000 to arrest, house and feed the crowd of criminals and of such persons coming from those quarters where unwholesome and cheap houses abound.

If we wish to adopt a plan of wise construction it is necessary to give to each family its own house. If we wish to solve the problem of housing, it is necessary to give to our people a distinct and separate hearth and not a simple shelter, and he concludes:—

“In order to arrive at a practical and satisfactory solution of the great question of housing, it is absolutely necessary to obtain the co-operation of the Federal and Provincial Governments, of capitalists and the chiefs of industry.”

Translated from *L'Administration*, Pointe-aux-Trembles, P.Q., April 24, 1920.

EXCESS CONDEMNATION AS AN AID IN CITY IMPROVEMENT

RAPID growth and the new traffic problems of large cities have in recent years developed an absolute need for comprehensive city planning which involves knowledge of existing conditions and study of the future growth, covering the proper relation of improved thoroughfares, boulevards, parks and recreation grounds. In securing such improvements through condemnation, the courts do not permit the taking of more land than is shown to be actually needed. This often results in leaving remnants of abutting parcels of land which are inadequate for proper building utilization, for which owners have been awarded damages to full value. With the right of excess condemnation the city would acquire sufficient abutting land to provide properly shaped building lots. These would be resold or leased, with suitable restrictions, if required, to protect the improvement, and the city would derive the benefit of enhanced values resulting from the development.

Briefly stated, the chief objects of excess condemnation may be enumerated as (1) the protection of thoroughfares, parks and public building sites from unsightly structures or neglected vacant remnants of land; (2) the securing of public improvements at little or no cost to the city, thereby making many schemes practicable that would otherwise be too expensive; (3) the correction of past mistakes in street widths and locations due to bad planning.

BUY

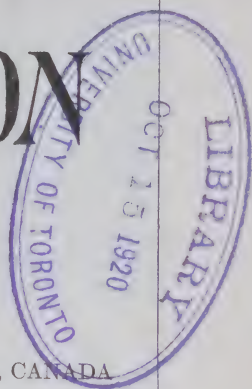


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WAR-SAVINGS STAMPS

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The opinions expressed and statistics quoted by writers of articles and papers appearing herein are the opinions and statistics of the authors only.

THE COMMISSION OF CONSERVATION

The Commission of Conservation was created in 1909, by Act of Parliament, to promote the economic use of Canada's natural resources. Authentic information respecting the character and extent of such resources, and with reference to the problems associated with their efficient development and their conservation, is freely available on request to the Commission.

THE FUTURE OF OTTAWA

II

ZONING OR DISTRICTING AS PART OF THE OTTAWA CITY PLAN

IN the first part of this article, which appeared in the last issue of *Town Planning and Conservation of Life*, reference was made to the subject of zoning as part of the city plans of Washington and Ottawa. In referring to Ottawa and Washington together the statement was made that both had good general plans for their development, but that these plans did not deal with the important question of zoning. While this statement is true of Washington, it is only partially true of Ottawa, as the report of the Federal Plan Commission and the excellent plans prepared by Mr. E. H. Bennett, of Chicago, devoted considerable attention to the needs of zoning, and gave an outline of a scheme to separate residences, industry and business. The matter is dealt with in the chapter entitled "District Control" and drawing No. 9. What was intended to be conveyed, and should have been more clearly stated

by the writer, was that a definite scheme of zoning was needed to give effect to the recommendations and plans of the Federal Plan Commission. Credit must be given to the Commission and their experts for having dealt with the preliminaries of a zoning plan, but their suggestions should have been followed up by a detailed plan or the preparation of a zoning by-law in accordance with the Ontario statutes.

As stated in the previous article Ottawa has more reason for a zoning plan than Washington, which is now having a zoning plan prepared. In Ottawa several apartment houses are now being erected, with the direct result of destroying the amenities of residential districts and property values. As every community which desires to promote its permanent welfare is interested in the increase of home-owners, it is unfortunate that the one serious obstacle to home-owning in Ottawa is the lack of security for protecting the surroundings of the home. Some such security is obtainable at Lindenlea under the scheme of the Housing Commission, but not so in any other part of the city—even where the most expensive residences are erected.

SKYSCRAPERS DO NOT PAY

In connection with the need for restricting the height of buildings, an interesting light was thrown on the economic aspect of the sky-scraper at the annual convention of the National Association of Building Owners and Managers. At this convention, held in Minneapolis on August 11th, Mr. Edwin S. Jewell, of Omaha, declared that low buildings were more profitable than sky-scrappers. He showed that they were more marketable when a change of conditions took place in the character of the neighbourhood. Among other things, he said, "the money put into elevators, heavy framework and other incidentals necessary to the erection of a sky-scraper would pay for a good practical office building four to six stories high covering the same piece of ground." He pointed out that low buildings spread the business districts of cities over wider areas, raised land values, prevented congestion and promoted safety. He said that the study of revenues from a large number of office buildings in more than fifty cities, in 1919, showed an average income of about \$1.41 per square foot in respect of 143 buildings, whereas it would require \$2.64 per square foot to make the investment realize 6 per cent.

Ottawa is at the stage when the need is evident for controlling the character, density and height of its buildings. The city, even in the central districts, is still in the making.

PROPOSALS OF PLAN COMMISSION

The Federal Plan Commission advocated that restrictions should be applied to create six districts, namely:

- (a) Industrial areas.
- (b) General railway and transport areas.
- (c) A central business district to include retail, wholesale and light industry.
- (d) A central residential district.
- (e) An outer or general residential district.
- (f) A suburban residential district at present unplatted.

The study made by the Commission should be followed up by a more careful and detailed study of the city and by the preparation of a zoning plan and by-law prepared in accordance with provincial law.

NEED OF CO-OPERATION

In the preparation of such a scheme it is essential that there should be as much agreement as possible between the city and the citizens, including the owners of real estate. Therefore, a zoning plan requires that numerous conferences be held in the different parts of the city to be

affected by the restrictions. However excellent a plan may be, it is likely to prove ineffective and unworkable if an attempt is made to impose it on the city against the will of a substantial majority of those interested both in the well being and in the economic stability of the city. A zoning plan is part of a general city plan, which must be based on the co-operation of all citizens.

Now that the citizens of Ottawa are settled down to comparatively normal conditions, and are facing the problem of the further growth and development of the city during a period of peace, surely it is of vital importance that the work of the Federal Plan Commission should not continue to be ignored and forgotten. The Commission was appointed to prepare a plan, but the step was not taken to appoint any committee or commission to consider how and by what means it was practicable to give effect to the recommendations of the Commission. Yet the real work of planning Ottawa will only begin when some body is invested with the responsibility of considering the practical application of the Federal Plan. There is no part of that plan which is more pressing than that which relates to zoning, and consideration should be given at an early date to the question of how it can be dealt with as part of the scheme for regulating the future growth of Ottawa.—*Thomas Adams.*

NEW HOUSING ACT IN ONTARIO

ACCORDING to official reports, 1,184 houses were built in Ontario in 1919 under the terms of the Federal loan and the Ontario Housing Act of 1919 at an average loan per house of \$3,106.40, or a total of over \$3,500,000. The amount appropriated to municipalities by provincial orders in council was over \$10,500,000. It was also estimated that to meet all requirements of the various municipalities for 1920 about \$8,000,000 extra would be required. The province's share of the Federal loan is \$8,753,291.93, leaving about \$10,000,000 to be provided from other sources. Of this amount the province of Ontario has agreed in an informal way to provide two million dollars.

To provide for the housing needs unmet by loans already arranged, or when Ontario's share of the Federal loan is exhausted, the province has enacted this session the "Municipal Housing Act, 1920." Amendments to the Ontario Housing Act of 1919 provide that its provisions shall apply only to such municipalities as were already operating under the 1919 Act before the Municipal Housing Act, 1920, was passed.

The latter Act is very similar to the Ontario Housing Act of 1919, except that instead of enjoying the Federal Loan at 5%, debentures issued by the municipalities, and guaranteed by the province, will probably mean money at 6% to the owner building a house. Also, while the maximum costs of house and land for solid construction, under the 1919 Act is \$4,500, under the Municipal Housing Act of 1920 it is \$5,100. The maximum cost for the purpose of loans on frame and veneer houses will be practically the same as prescribed under the terms, as amended, of the Federal project.

A commission appointed under the 1919 Act may be appointed, by by-law, a commission under the Municipal Housing Act. The Ontario Director of Housing considers that about 50 per cent of the commissions operating under the 1919 Act will also operate under the Municipal Housing Act, and that probably some 3,000 houses will be built this year under the two Acts. It is stated that but for the high cost of construction, probably 10,000 houses would have been built in Ontario under the Act.

TOWN PLANNING IN SASKATCHEWAN

PROVINCIAL legislation in town planning and rural development was adopted by the province of Saskatchewan in December, 1917, giving the Director of Town Planning, under the Department of Municipal Affairs, the power to call upon any city, town or village within the province to prepare an orderly plan for its future development, so that the expensive mistakes, the disorder and ugliness that have so often characterized the growth of towns and cities might be avoided in the province of Saskatchewan.

To an orderly mind, which appreciates the value of method, system and economy in effort and expense, such a step is but a natural and logical outcome of what the whole world is learning of the benefits of town planning.

Speaking from a purely business point of view, Mr. L. K. Sherman, President of the United States Housing Corporation, stated recently at a Chicago conference: "We have learned that proper town planning and planting can increase the selling value of a house more than any other dollar of investment."

From a social point of view the development of a town plan may be so guided and guarded that the social evils, which are the despair of the modern city, may be prevented and 50 per cent of infant life may be saved.

Each of these considerations is worthy of regard. Business must be carried on; the preservation and enrichment of social life means conservation of human energy and human happiness. These are all legitimate considerations for those who have the public responsibility of shaping the nuclei of future towns.

To achieve these ends the surest, quickest and most just way would seem to be by the method of law which is believed to be the embodiment of the will of the people, as expressed through their representatives. Compulsion of law for the preservation of life had to be applied to factories and workshops many years ago. The town is a factory and workshop for the making of a citizen. The ideal of law is the protection of those who are not able to protect themselves.

Herein is the philosophy of a compulsory town planning law.

Let a town grow up on the method of land sweating and for the supposed benefit of a few real-estate owners only and sooner or later the price will be paid in the waste of life and by men and women and children who were not in the least responsible for the conditions that demanded their sacrifice. Here is an illustration of what may happen in the absence of town planning law. It is given on the authority of Miss Alice Fitzpatrick, daughter of the Lieutenant-Governor of Quebec and Secretary of the Anti-tuberculosis Branch of the Red Cross, in her report of conditions in the city of Quebec in May of this year:—

"A family of fourteen, sleeping in three beds in two rooms, ten children, boys and girls, sleeping in one room, the father, the mother and two other children in one bed in the other room. Another case is that of a tubercular woman of 66, whose brother, a half-wit, sleeps in her room on the floor. This woman, who owns the house, rents the other three rooms to a widow with nine children and she is tubercular as well as her children."

It is a belated question now to ask whether a province has a right to make such waste of life impossible. The modern question is whether it has a right to allow it to proceed.

The compulsion of the Saskatchewan Town Planning Act is not from without; it is compulsion by consent. In introducing the bill the Hon. Geo. Langley said: "We have not drawn the bill without consulting

with our city, town and municipal authorities, and they are generally agreed that the provisions of the Bill are fair and workable, and, if properly put into effect, something like a reorganization may be made in the plan of our cities."

From all villages, towns and cities in Saskatchewan the province will have power in December next to ask for by-laws that will:

- (1) Fix the building lines of all existing roads and all new roads so as to preserve the utility and beauty of streets;
- (2) Reserve land for new thoroughfares that may be needed later in the interests of future civic economy;
- (3) Reserve land for parks and open spaces so that there will be always room for children and adults to play;
- (4) Limit the number of separate family dwellings to the acre and the percentage of the building area on the lots, so as to prevent overcrowding and slum conditions;
- (5) Set aside certain districts or zones for different civic uses, such as industry, commerce and residences, to prevent destruction of home values;
- (6) Classify agricultural land into different uses, to prevent waste of human energy on unprofitable soil;
- (7) Prohibit the carrying on of noxious trades or manufactures or the erection of bill-boards among the residences of the people; and,
- (8) Regulate the width of streets according to their uses, in order to save the expense of unnecessarily wide roads.

Saskatchewan has never passed a single law that will so profoundly affect her destiny or add more to her fame as a democratic province governed by the people and for the people. The potentialities of the new law for human good are incalculably great. It is a new liberty that is being sought, the liberty of men and women to breathe clean air and have room to live in decency and comfort. The fulfilment of the law will depend, to a large extent, upon the quality of the officers who have charge of it, and these are the people's representatives, but it will also depend upon the local organizations, social welfare societies, churches and clubs, and the price of the new liberty from the tyranny of land-sweating will be eternal vigilance.

There are signs already that Saskatchewan is rising to its opportunity. The Town Planning Department of the Government has prepared for exhibition at Regina a plan and model by-laws for Indian Head, showing its present development and the lines of town planning progress that may be followed. Together with this model plan are illustrations of development of municipally owned land where the property has been improved on town planning lines.

A town plan has also been prepared for the townsite of Naicam, on the Lanigan northeasterly branch of the Canadian Pacific railway. It is expected that this town will reach a population of 300 in one or two years, as it is to be the end of construction and is located in an excellent farming country. The town plan consists of four blocks, and the new social outlook is indicated by the arrangement for a public reserve for the recreation of the people. In the residential portions the lots will be 50 feet wide and 120 feet deep. The main street will be 100 feet wide, with the station at one end and the public reserve at the other end so situated that any building located thereon will be in effective view of the street and the station.

The secondary business streets will be 80 feet wide, the main residential streets 66 feet wide, and secondary streets 50 feet wide. There will be a restriction of industrial developments, such as lumber

yards, livery stable, blacksmith shop, etc., to a definite locality in touch with the railway.

Here are some of the first principles of town planning. The ambitious citizen and business man should not need to be reminded that standing now almost at the beginning of the town planning movement, the adoption of town planning will be itself a considerable business asset.—*Alfred Buckley.*

BUILDING SHOULD PROCEED

UNDER this caption the *Canadian Municipal Journal* quotes with apparent approval an article from *Canadian Finance* in which it is stated that the home building carried on in 1919 in the larger cities of Western Canada was of a negligible quantity and that the maximum grant for building houses should be raised by the Federal Government. Referring to the Federal grant and to the conditions of the loan it is stated:—

"Among these stipulations were a number relating to the maximum amount to be advanced on certain classes of houses. The maximum amount allowed is as follows: On frame dwellings of 4 or 5 rooms, \$3,000; and 6 or 7 rooms, \$3,500; on brick, tile, or concrete dwelling of 4 or 5 rooms, \$4,000; and 6 or 7 rooms, \$4,500.

"At the time the regulations were made it is questionable whether the maximums were placed as high as conditions required in Western Canada, but at this rate there is no question that the maximums need revision. During 1919 the cost of building increased at least 20 per cent, and experts declare that there is no likelihood of these costs decreasing during 1920 and they even assert that costs will increase during 1921 and continue with an upward tendency for several years thereafter.

"Many persons who were ready to build homes have refrained from doing so, because they expected the cost of building to decrease. The experiences of 1919 have shown that these expectations were not based on good foundation and the knowledge that costs will not decrease during 1920 places the prospective home-builder in the position where he should decide to commence construction this year. It will not pay to wait. Costs are high now but they will be higher later on.

"We therefore suggest that the man who can afford to build his own home should do it now. We also suggest to the Dominion officials that it would be wise to revise the conditions of the housing scheme so as to make it attractive to the man who wishes to build, but cannot unless he receives assistance."

The argument of the article is unquestionably cogent. The application of it is intended for western conditions, but though housing activity has been greater in the east than in the west, a plea for swifter progress throughout Canada may well be presented. The suggestion that the maximum amount allowed for the building of houses should be raised is rather belated, since this action was taken by an order in council of the Federal Government on March 27th, 1920.

By this order in council the maximum grant for detached or semi-detached dwellings, with walls constructed wholly or partly of frame, stucco on frame, or brick veneer, inclusive of the capital value of the site and necessary local improvements, is increased from \$3,000 for houses with four or five rooms to \$3,500, and with six or seven rooms from \$3,500 to \$4,000.

A similar amendment was passed on August 23rd, 1919, providing for grants of \$4,000 for houses of four or five rooms, and \$4,500 for houses of six or seven rooms having walls of cement stucco, of approved

construction, or of brick veneer, and with roofs of first quality of wooden shingles when laid on asbestos paper, subject to such houses being on lots of not less than 3,000 square feet in area. Under the original scheme not more than \$3,500 could be loaned on such houses, the larger amount being available only for solid brick, concrete or stone houses. The reason for this amendment was the high cost of building construction, so that greater latitude had to be given and somewhat different standards permitted in regard to material.

HOUSING PROGRESS

The housing accomplished under the Federal grant cannot be considered a negligible quantity though it is far from adequate. Progress has been made in two directions—in the building of houses and in promoting a housing conscience in the country. If that progress is continued and extended the opportunity has been created of building up a national housing policy in Canada of a very superior kind. While subsidies have been granted to private builders by the British Government, amounting to \$1,300 per house, the Canadian project does not threaten any serious loss to the country while it does create the machinery and provide the capital for building houses. The Director of Housing for Ontario states in his report: "In nearly every municipality where houses have been erected the monthly payments for principal and interest, including taxes and insurance, are less than the rentals for similar houses in the same municipalities."

With the aid of the Federal grant 1,354 houses had been constructed, according to the returns at the end of March, and since that time the building of houses under the grant has been the most active since the initiation of the movement. In Ontario there were built 1,184 houses, Manitoba 77, British Columbia 50, New Brunswick 33 and Quebec 10. According to information available, nearly 5,000 houses are under plan for construction this year. In Ontario nearly 100 municipalities have passed housing by-laws and are busy with housing schemes. An additional loan of \$25,000 was made to Quebec on May 17, making a total for that province of \$85,000, and a further grant of \$200,000 was made to British Columbia on June 5, making a total for that province of \$950,000.

On May 14 the Saskatchewan housing scheme was submitted to and approved by the Housing Committee of the Cabinet.

For more than a year the Dominion loan has been at the service of the provinces and through them of the municipalities but only about half of the loan has been demanded by the provinces.

MUNICIPAL HOUSING

The reason for this inaction on the part of some of the provinces was doubtless due to the fact that a project for municipal housing was regarded by many persons as revolutionary. It had to meet and overcome the powerful objection that, as hitherto the provision of housing had been regarded as the prerogative of the building industry, any government action was an interference with private trade. The answer, obvious and conclusive, was that private enterprise had practically ceased to operate in the construction of workmen's dwellings, and any further reliance upon the supposed potency of the law of supply and demand was perilous and impossible. Private enterprise had abandoned the task because there was no money in it. Capital had found more remunerative channels and the people were not being housed. Cumulative evidence showed that the housing conditions of most towns and cities were a menace to the health and welfare of the people and to the

nation at large. In the interests of the race, housing had to be accepted as a national responsibility.

Some of the strongest objectors gradually yielded to the logic of an urgent human need. Journals that had opposed the project, as time went on, favoured municipal housing. A similar fight had once to be waged and won for national education. It was once passionately urged that it was every man's duty to pay for the education of his children and the state had no responsibility. But statesmen saw how vitally important it was for the welfare of the state and every member of it that children should be educated and that national education could be better accomplished by national machinery. It was realized that ignorance was the parent of disease, misery and crime and that in organized society no man could escape the consequences of these evils.

The same logic is at present establishing the necessity for national housing. As men have to pay for the education of their children in another form so they will have to pay for their housing, but, as the war amply demonstrated, objects can be achieved by massed movement that could not have been achieved by individual effort. Now it is argued that crime hides itself and breeds in the slums of the cities, and housing surveys are building up statistics that make the argument irrefragable. The tone of the press may be illustrated from a quotation from the *Vancouver Province*:—

"City authorities are occasionally invited to take some action against the advance in rents on the houses occupied by working men. The city would be in a better position to intervene if it had not confessed its own inability to provide cheaper houses with money offered by the Dominion at low interest. It has been explained that houses so built and sold without profit to families with payment made as rent over long periods would cost the worker more than he could afford to pay. The inference is that working men can better afford to rent houses at the present price than to accept the best terms that the city could make under the most favourable conditions. This is poor encouragement to investors to build houses to be rented at present prices, and no encouragement to workers to build homes for themselves. It would have been well worth while for the city government to take hold of this housing project and work it out promptly as far as the money went, while labour and materials were lower in price than they are now. Even at a later stage it was a weakness to accept a partial failure."

POSSIBLE MODIFICATIONS OF THE SCHEME

It may be said that delay in taking advantage of the Federal loan was not unnatural in the face of the individualism that has always been a part of the Canadian national character. It is no longer being said that the foundation of the Federal loan for housing was a mistake, while the disposition to make use of it is growing stronger. It may yet be necessary to modify the scheme. One of its weaknesses is the lack of provision for lending money for housing to soldiers and working men living in rural areas where the local council is not willing to work under the scheme. Such cases could be met by some arrangement for loans to be granted direct by the Provincial Government to the individual.

There is also a clause in the original Act which states that "public money may be advanced for building houses on sites owned by housing societies or companies comprising groups of citizens associated to promote good housing, supplied with proper improvements; such societies or companies to have a statutory limitation of dividends payable on stock of not more than 6 per cent.

SOLDIER COLONIES

IN 1917, during the most strenuous days of the war, an attempt was made in the Report on *Rural Planning and Development*, published by the Commission of Conservation, to outline some of the principles that should govern the settlement of returned soldiers. It was pointed out that, after many soldiers had returned to their previous occupations or had been absorbed into the industrial life of the cities, there would still be a large number for whom some organized provision should be made—as a national obligation. It was stated:

“In view of the large number of men who have a taste for industrial pursuits, who have learned discipline and precision, who have seen the advantages of co-operation and social intercourse, it will be essential for some step to be taken to organize the development of new towns or to assist in the extension of existing towns where such men can be provided for. Even those who will want to take up farming will prefer to do so in close proximity to an existing city or town where intensive culture is practicable and better social facilities can be obtained.

“Until development schemes are made it is not likely that the settlement of isolated groups of returned soldiers in rural districts will succeed, no matter how liberal the terms may be that are offered by the governments. The areas available for free homesteads are for the most part in remote regions, where success is difficult because of want of proper means of communication. The returned soldier will need social intercourse and good facilities for educating his children, and these must be provided wherever settlement is permitted; they cannot be provided in small artificial colonies, or without closer settlement over wide areas, better roads, and the expenditure of capital in planning and developing large areas of the land.”

In many parts of Canada for generations inexperienced men have been settling on land with no knowledge of soil values and no prospect of transportation and community life. Mr. F. C. Nunnick, Agricultural Adviser to the Commission of Conservation, reporting in 1917 on the excellent work that has been done in New Brunswick in land classification for the benefit of settlers, says:

“In the past, the provinces administering their own Crown lands and the Dominion have, in many instances, allowed the settler to take up land unsuitable for agriculture. In some cases, it is true, the applicant did not care about the quality of the soil so long as he could get the timber, but, on the other hand, settling on unsuitable land has resulted in many disappointments and failures by men who really wanted to farm.

“In taking up Dominion land, the onus of choosing is placed upon the settler. If he knows poor soil from good soil he will not make a mistake, but the man from the city or elsewhere, who knows nothing regarding soils, should be protected. Deserted farms, with their crumbling shacks, tell plainly the story of the failure of those unable to properly choose their farms. These men should be advised and assisted. It is too much to expect that all these mistakes can be righted, but something should be done to prevent their recurrence in future.”

The closer settlement for co-operative and social purposes recommended by the Commission of Conservation for years would have at least restrained the tide of depopulation of the rural districts of Ontario and saved the settlers from the isolation of themselves and their families to which the soldiers should not have been submitted. But there appears to be still an assumption that such a scheme can be made successful without a comprehensive plan of development in advance.

In *Rural Planning and Development* it was said with reference to Ontario conditions:—

“Having regard to its seriousness, and to the train of evils which follow as a result of failure in land settlement, everything possible should be done to safeguard the country against such consequences. The wasted energy and capital of settlers who break down in a losing fight against natural obstacles is only a small part of the loss to themselves and their country; there is also the physical and moral deterioration which seems to set in, in every poor agricultural district; there is the loss of hope in themselves and their broken faith in the capacity of the land to give them a living. Children who grow up under such conditions are often worse housed, worse cared for and worse educated than children in the city slums. When people reach this condition they warn other people off the land, both by their appearance and by the accounts they give of their hopeless struggles.”

KAPUSKASING SOLDIERS' COLONY.

The reasons given for any failure that may have occurred in connection with the establishment of the Kapuskasing Soldiers' Colony in Northern Ontario, show that the absence of planning and land classification was chiefly responsible for the alleged mistakes and difficulties. This colony was started as recently as 1917. Whatever may have been the defects of that experiment they were technical rather than political in character.

Mr. J. P. S. Ballantyne, Superintendent of the Dominion Government Experimental Farm across the Kapuskasing river from the colony, stated at the investigation into the project that the choice of site was a mistake. The first step in rural planning is to choose the right site. The evidence of the inquiry shows that such raw land settlement was not capable of providing a livelihood for returned men without an amount of preparatory work estimated by the Investigating Commission at four or five years for the clearing and draining of the land. If a scheme had been prepared in advance it would have shown that the cost of developing the site would have been too great and would have caused the selection of another site.

The crops of the settlers were ruined by frost, while those of the Experimental farm just across the river suffered no injury because proper draining methods had been adopted. Here again the preliminary data that was needed to prevent this result was wanting.

It was natural that the neglect in preparing a plan was followed by absence of coherence of policy or such reasonable co-operation between officials and men as would have created loyalty and promoted moderate contentment.

The essential primary step should have been the creation of a plan of development, based on land classification, such as is being carried out in New Brunswick.

“In New Brunswick a survey of Crown Lands for the purpose of classification was inaugurated in 1916. The object of the survey was to estimate the amount of timber on the land and to delineate the land suitable for agricultural development. An Act passed in New Brunswick in 1912 created a Farm Settlement Board, which is authorized to purchase abandoned farms, improve them and erect buildings thereon, afterwards selling them to *bona fide* settlers.*

**Rural Planning and Development*, p. 69.



AN ABANDONED FARM IN ONTARIO.

Failure was due to an endeavour to make a living on land unsuitable for agriculture, which should never have been thrown open to settlement.
From Rural Planning and Development.



A FIELD OF CELERY ON A PROSPEROUS ONTARIO FARM.

Many acres of equally good land are lying idle as a result of speculation and want of proper planning.
From Rural Planning and Development.

Mr. F. C. Nunnick, in a report to the Crown Lands Department of the Province of New Brunswick on soil classification writes:—

"The soil is classified when the land is mapped and estimated along with the regular survey work. An endeavour has been made, under the direction of the Commission of Conservation, to place the soil into five general classes, as follows:—Clay soil, clay loam, sandy loam, sandy soils, swamp soils. In addition to the above, two classes may also be mentioned, those which may be too rocky or too rough and hilly for agricultural purposes. Many abandoned farms in New Brunswick today are the result of endeavouring to farm on such land.

"Applications for a new settlement of from 20 to 30 families presents another phase of the question. Unless the proposed area is within reasonable distance of good transportation facilities and the soil fairly suitable for agricultural purposes it would seem to be unwise to open up settlements. The abandoned farms and abandoned areas already existing in New Brunswick emphasize the wisdom and necessity of exercising great care in this connection.

"The increased activity in the soil classification work during the past season came as an agreeable surprise. The increased number of applications by returned soldiers through the Farm Settlement Board has indeed made it necessary to give the matter greater attention and has made the selection of suitable land for this purpose a problem in many cases. The fact that parts of the settled sections of the Province contain good farming land while social or economic reasons make it necessary to select land in other parts of the Province makes it all the more difficult. However, I am of the opinion that the Government in adopting the policy of sorting out only the best of the soil in counties where the lighter sandy soils exist has followed the only fair and just course in regard to the future of the Province and individual."

A careful and competent observer from another country who visited the Kapuskasing colony has said that enquiries at the settlement and in Toronto did not disclose any effort of a scientific nature to determine the character of the soil as a basis for the allotment of the land. The land was divided into 100-acre rectangular lots, regardless of the particular nature of the ground at any location. The form of the lots was only modified by the interruptions of the river, lake or railway. Each man was allowed to select his own lot. Land classification, says this observer, was one of the omissions at Kapuskasing. Land classification, he says, should have been followed by town planning, and town planning cannot be begun until land classification ends. There should have been a survey following the location of rivers, lakes, railways, etc., and also the location of muskegs and other definite variation of the soil. He could see no attempt at the formation of an efficient agricultural community.

The important fact is that, in addition to land survey and land classification where settlement is contemplated, there should be prepared a plan of social development and transportation that would have regard to the social needs and living conditions of the future community, that is to say, the principles of town or rural planning that are now receiving world-wide application should be applied in advance of settlement to any project that contemplates the establishment of community life. In the case of returned soldiers particularly, provision for community life should have been one of the first considerations. In British Columbia these facts are being recognized and soldier settlement is proving a success.

This was urged in *Rural Planning and Development* with every possible emphasis and reiteration.

"The defects in the system of land settlement in Canada have only become evident or at least pronounced in recent years. Even in the United States, where a similar system has been in operation for a much longer period of time, it is only lately that the people have begun to recognize the fact that a scientific plan of development, prepared in advance of settlement, is essential to enable a sound economic structure to be built up.

"Whatever may be said as to the success of the system of Land settlement in Canada up to a certain point, the time has come to abandon careless methods of placing people on the land without proper organization and careful planning. If the farmer is to be kept on the land he must have the kind of organization and facilities provided for him to enable him to make profitable use of the land."

SAFEGUARDING RURAL WATER SUPPLIES

THAT the question of proper protection of rural water supply is of extreme importance in Canada is shown by recent statistics compiled by the Quebec Provincial Board of Health. While 59 per cent of the population of that province is served by water-works, the remaining 41 per cent relies on shallow or tubular wells. Assuming the same proportion throughout Canada would lead to the conclusion that nearly one-half of our population is supplied from wells.

Proper inspection of individual farm wells is not only important for the protection of the farmer himself and his family, but is also of vital interest to urban population. A polluted well on a farm, even 15 or 20 miles from the city or town, may be the direct cause of a typhoid outbreak in that city or town. The use of polluted water for cleaning or washing purposes may carry infection to the town through dairy products or vegetables, to say nothing of the individual carrier who may even be more dangerous.

Dr. E. G. Birge, a State official of Iowa, states that no board of health worthy the name neglects this important water problem for a minute, yet in most parts of the country improvement goes on with surprising slowness. This is due, no doubt, to the multiple activities of the state boards of health and to the fact that the public looks to them to decrease disease, and this matter of improving water supplies, either municipal or rural, is merely a coincident step in the work. This is not always the fault of the state boards of health. Usually it is largely due to apathy on the part of the public and a lack of definite co-operation on the part of other forces working toward the same end.

The task is a great one; just what the plans of such a campaign should be is a question. The present laws concerning the pollution of water relate to the water supplies of cities and incorporated towns. So far as they go they are adequate, but they do not go far enough.

The strictly rural water supply, however, and by that is meant the well that supplies the farmer's family and possibly a neighbour or two, is not brought to the attention of the health authorities, either local or state, until disease appears in the neighbourhood and suspicion points towards the supply. It is as necessary to safeguard the strictly rural water supply as the water supply of the municipality and state. Another benefit which will come from the constant supervision of the individual country water supply, is the fact that the surroundings will necessarily be kept in better sanitary condition.

INTER-ALLIED HOUSING AND TOWN PLANNING CONGRESS

THE Inter-allied Congress on Housing and Town Planning, which opened in London, England, on June 3rd, included representatives of 20 different countries. Dr. Addison, Minister of Health to the British Government, said that it was significant of the world-wide interest in and the awakened conscience of the nations on the subject of better housing that one of the first international meetings after the conclusion of peace should be assembled to discuss the housing of the people.

Representatives were present from Great Britain, Canada, United States, France, Spain, Italy, Greece, Denmark, Sweden, Switzerland, Australia, New Zealand, Siam, Norway, Chili, Roumania, Uruguay, Jugo-Slavia, Finland, Czecho-Slovakia.

Dr. Addison, in speaking of the British housing situation, said that in the passing of the Housing and Town Planning Act of 1919 a definite obligation had, for the first time, been placed upon every local authority to prepare and submit, within a specified time, a scheme for meeting the housing needs of its area, and, as soon as the scheme was approved, the local authority was required to follow the programme out.

The country's central organization had been modified and much of the work was now being done by commissions, who exercised delegated powers in eleven areas throughout the country. They had taken special steps to improve the standards of housing. A manual had been prepared providing for the planning of sites, and the aim was to reduce the density to twelve houses to the acre. Many difficulties had been met that were chiefly due to the increased cost of housing and the shortage of labour, although only 2,000 houses had actually been completed, he expected that 100,000 would be finished before the end of the year. Over 48,000 acres of land had been appropriated for sites and nearly 4,000 lay-out plans had been passed. Detailed housing plans had been approved for 187,000 houses and tenders had been definitely sanctioned for 107,000 houses.

"In the proper housing of the people," said Dr. Addison, "lies the health and contentment of every nation." He believed that whatever the cost of better housing might be, that cost would be saved in the prevention of ill-health, disease and social disorder. Good homes would mean good health, social content, increased self respect and finally loyalty to the ordered progress of society. The Inter-allied Housing and Town Planning Congress, said the *Westminster Gazette*, was of international importance since its object was to study the effect of the housing problem upon the life and progress of the nations.

Mr. Lawrence Veiller, of the United States National Housing Association, said that the honour of creating that wonderful achievement, the Garden City, belonged to England, and, while other nations had not yet followed, England was going forward to build another garden city.

HOUSING AND TOWN PLANNING IN NORWAY

COMPARISON WITH CANADA

INTERESTING contributions were made on the subject of housing and town planning in Norway to the Annual Conference of the Garden Cities and Town Planning Conference held in February of this year. At this Conference there were representatives of about twenty countries. The Norwegian delegates included Sverre Pedersen,

Town Architect of Trondhjem and Christian Gierløff, Secretary-General of the Norwegian Housing and Town Planning Association.

EARLY PLANNING IN TRONDHJEM

Mr. Pederson described how the change in the plan of Trondhjem became necessary in 1861, after its devastation by fire. One of the interesting features of the plan—which was prepared by General Cicigion—was the division of the town into four sections by wide cross streets so as to confine fire outbreaks in each section, and the separation of the industrial area along the river from the rest of the town by a wide avenue of trees. The owners of private property had to submit to changes similar to those that have taken place in replanning the devastated area of Halifax. As in most countries the development of Trondhjem during the nineteenth century was devoid of planning, but since 1900 interest in the plan of the town has been revived. Wooden buildings are still permitted in the outlying parts but must not exceed two stories in height and have eight metres between them.

Formerly the tendency in Norway was to imitate the German flat, but recently the tendency has been towards the English pattern of small homes.

Since the war houses in Norway are being built almost entirely by the municipalities, as private building enterprise has ceased. At Trondhjem the municipality has founded a factory to manufacture wooden houses. A plan has been made by Mr. Pedersen to limit the size of the town and form an agricultural belt after the example of the Letchworth Garden City. "We do not nurse the idea," says Mr. Pedersen "that Trondhjem will grow into a large town but we wish all the more it should be a good and healthy town" and he concludes his description by acknowledging that it is the example of England, "which in these matters has advanced further than any country" that has given them inspiration.

NEW TENDENCIES IN INDUSTRIAL GROWTH

Mr. Gierløff in his paper quotes at length from "Cities in Evolution" by Professor Patrick Geddes in regard to the development of electric energy in Norway. The words of Geddes have so much significance in relation to development in Canada in view of the increasing use of water-power that no apology is needed for quoting them in full.

"Every schoolboy knows something at least of the historic significance of Norway, that poorest of lands which, as Norse children tell, was left altogether without soil at the Creation, and so has for its few up-land farms only such few particles of soil as its kindly guardian angels could sweep up and bring thither on their wings from the leavings of the richer world. As some compensation, however, their many rivers were rich in salmon, and these taught their fishermen to venture out along the calm 'swan's path' of the fjords as sea-fishers, and in comparative safety to master the art of sailing behind their long island breakwater. Thus trained, and equipped, their merchant-history, emigration-history, pirate-history, conqueror-history follows, with what effects on Europe every one knows; but what we do not as yet sufficiently realize in other countries—whose ideas of each other are seldom less than a generation behindhand, and generally more—is how a new historical development, in new conditions, and destined to take new forms may be, and actually in Norway is, arising once more. The electric utilization of a single waterfall is now yielding 150,000 horsepower; and though this is certainly one of the very greatest, there are smaller ones almost beyond number for a thousand miles. Norway, then—which has so long seemed practically to have reached its small

natural limits of wealth, industry, and population, as to have long fallen out of all reckonings of the Great Powers, of which it was the very forerunner—has now broken through those limits and begun a development, perhaps proportionately comparable in the opening century to that of our own country in the past one—yet with what differences.

"Yet instead of Norway forming cities like ours upon these unending streams of energy, these for the most part generate but long chains of townlets, indeed of country villages, in which this strongest of races need never decline, but rather develop and renew their mastery of Nature and of life again as of old . . .

"Are there not here plainly the conditions of a new world-phenomenon and world-impulse—a Norseman aristo-democracy of peace which may yet eclipse all past achievements, whether of his ancient democracy at home or even (who knows?) his aristocracy of conquest and colonization abroad among older discouraged peoples . . .

"What are the essential applications of these new energies, besides electric lighting and power for tramways, railways, etc.? These uses are largely metallurgical—that is, on the central lines of the world's progress, from the Stone Age onwards. The electric furnace not only gives an output of iron and steel, greatly cheaper (it is said already as much as 50 per cent) than heretofore, but of the very finest quality; so that not only our British steel works but those of Pittsburg also must, before long, be feeling this new competition.

"The command of the new metals like aluminium, of the rare metals also, every year becoming more important, which the high temperatures of the electric furnace give, involves further new steps in metallurgy. Again, the conditions for labour and its real wages, in the innumerable garden-towns and villages which are springing up in these conditions, each limited in size by that of its stream, and thus continuous with glorious and comparatively undestroyed natural environment, afford an additional factor of competition, more permanently important than are those of money wages and market prices. The favourable situation of these new towns, mostly upon their fjords, is again full of advantages, and these vital as well as competitive . . .

"Further, it may be remembered how, not so many years ago, one of our foremost chemists, Sir William Crookes, called attention to the approaching scarcity of nitrogen for the world's wheat crops, associated with the rapid exhaustion of the nitrate beds of Chili, etc. But now the problem of utilizing the nitrogen of the atmosphere for the production of saltpetre has been solved, even better than in Germany, by the Norse chemists and engineers. In such ways the country, hitherto the poorest of all in agriculture, begins not only to develop more intensively its own soil but to increase the fertility of all our Northern world."—*Cities in Evolution*, pp. 51-55.

We are approaching the condition in Canada of having half of our population in the cities. Yet we wonder why in a country of such great land resources food should increase so rapidly in price. It is a revelation that ought to make us think, to read Mr. Gierlöff's statement that two-thirds of the inhabitants of Norway live in rural districts. He would arrest any further decrease in the rural population by improving the rural housing conditions. We have still to learn how important it is for Canada that we should make housing conditions in the rural districts and small villages more attractive as a means of keeping people on the land.

Christiania, with 260,000 inhabitants, built 2,500 houses between 1916-19 at a cost of \$12,500,000. This gives a price of \$5,000 per house. This one city alone has spent nearly half as much on municipal housing as the whole of Canada by Federal, Provincial and Municipal governments. In older countries the value of better housing as a means of arresting industrial unrest and promoting development is more appreciated than in new countries. Are we to repeat the evils of neglect of this problem in Canada and then learn our mistake by bitter experience?

The houses thus erected are let at rents *subsidized up to 50 per cent* or sold or let to co-partnership housing societies on the same basis. The method most approved is to transfer the control to a housing society. In this, as in other methods, Norway frankly takes her example from England—a thing which some Canadians seem to regard as *infra dig*. Surely if Norway, and other European countries, including even Germany, find the British example of public housing and co-operation the best to follow we should not be ashamed to do the same.

AN IMPORTANT EXPERIMENT

Mr. Gierlöff gives an account of an interesting housing experiment, similar to what we need to carry out in Canada. "We are, on the whole, striving to lead the building of houses into automatic channels, so that we can be assured that the building of good houses will always keep pace with the growth of the population. And herein we are looking with the greatest hope to the co-operative building movement, realizing that humanity's sole hope for better economic and social conditions depends on the progress of co-operation amongst men."



A ROW OF EXPERIMENTAL HOUSES IN TRONDHJEM.

"All the small houses shown in the above illustration are built in different materials, wood, concrete, bricks, etc., with a view to testing the qualities of each. They are built partly by the state, partly by private building-material companies. The doors are double. Outside and inside are glass doors. The windows are double. There is a cellar under each house. The houses have all the same floor space: 2.00 by 2.00 metres square and 2.25 metres high. There are 24 houses, each of different construction. Each house is heated by means of an electric stove of 2 kilowatt. By means of a thermoregulator the current consumed by each stove is automatically regulated, so that the temperature in all the houses is kept the same (for example 15 degrees centigrade or possibly lower). The amount of energy utilized in each house can be read off separate meters. In addition, the temperature and moisture in the various cavities inside the walls is measured and all meteorological data of the atmosphere outside (temperature, degree of moisture, direction and strength of wind) is also registered. To the extent in which the result of these observations suggests the desirability of further special examinations, for example, direct measurements of the quantity of warmth which under certain conditions passes through a certain wall-space, such examinations will be put into operation as the work progresses.

TOWN PLANNING AND REAL ESTATE

*Address by A. G. Dalzell, at conference of Inter-State Realty Association of the Pacific Northwest, at Spokane, Wash., July 16, 1920.

TOWN planning has been opposed in the past by those interested in the sale of real estate, because they contended that it would tend to limit the sale of land. No doubt it would; but, after the experience of the past, are even those who are interested in the sale of real estate anxious to see new "paper cities" established? Let me give one example of a paper subdivision from a Canadian city.

In a Canadian prairie city of under 50,000 people, a quarter section of land two miles from the city centre was brought within the city limits. The general assessment of farm land outside the city limits was about \$50 an acre, but on being taken into the city this assessment was raised to over \$1,000 an acre. When taxed at this rate, there was, of course no alternative but to subdivide the land and place it on the market as building land. A subdivision plan showed 1,465 lots, each 25 feet by 124 feet, and on the strength of this the land was sold to English investors for \$249,000. The following year the assessment was raised to \$320,000, or an average of \$210 a lot, or \$2,000 an acre. The highest price paid for a lot in the area was \$350. At that time the city wished to borrow large sums to carry on extensive public works. Its charter gave it power to borrow up to twenty per cent of the assessment, which on this property would equal \$64,000. As the city did not borrow up to its full limit, we will assume that on the strength of this assessment it borrowed, say \$40,000, on long term debentures. Seven years afterwards the assessed value of the property was only a little over \$27,000, for, whilst a few lots have been sold, no actual building has taken place. In six years the English owners had paid in taxes more than the land is now assessed for, and the only revenue obtained from the property is \$50 per annum for grazing rights.

It is, of course, obvious that if the owners of this property cannot afford to pay taxes on something like the original valuation, the interest and sinking fund required to redeem the bonded indebtedness will have to be found by other land owners.

In the subdivision of this section principles were carried out which have been accepted in the past by competent real estate authorities. Richard M. Hurd, President of the Lawyers' Mortgage Company, New York, in his book "Principles of City Land Values," has this to say about the subdivision of land for city purposes:

"The unit, both as to depth and width of lot for which a plat should be built up, consists of the average shop in the business district and the average dwelling in the residence district. Since the growth of cities leads normally to the conversion of residence land into business land, a uniform system of platting suitable for business purposes throughout the entire city is generally preferable. Such a system need not necessarily lead to small holdings in the residence sections, although it has a tendency in that direction."

In the case I have quoted we have a subdivision of 1,465 twenty-five foot lots, a size everywhere condemned for residential purposes, and with only slight advantages for some business purposes. But why should land two miles from a city centre be subdivided into over 1,400 lots suitable for business purposes? Or why, if it is intended to start with residences, should provision be made for 7,000 people without a site being set aside for any school or community building, or provision being made for parks or recreation grounds?

Systematic town planning would make such a subdivision impossible, and would incidentally prevent either such an inflation or such a

depreciation of land values as I have described in the above city. Is this experience of English investors likely to induce further investment on their part in Canadian townsites? Land booms in western cities have almost ceased, and cities are now endeavouring to induce industries to locate within their limits. One of the greatest handicaps to industrial location in cities is the securing of industrial sites. In such a subdivision as I have instanced, a block of 40 lots, having an area of from $2\frac{1}{2}$ to 3 acres, is sometimes held by 30 different owners, even if the land is still vacant. No manufacturer can afford to deal with such a multiplicity of owners, even if he can overcome the difficulties of the shallow depth of lot, and so manufacturers are forced to secure sites outside city limits, whilst much land is left derelict inside the limits, necessitating extravagant cost in the provision of public utilities, street works, and policing, and involving a serious loss of time twice a day in the transportation of workers from their homes to the workshops.

Most of the cities in Western Canada, when the surrounding municipalities are included, have sufficient land subdivided to accommodate any population that will enter the territory for many years to come. Streets and building sites have been laid out in the districts immediately adjacent to Vancouver alone, which would provide for a population half the size of the present population of the whole Dominion.

If land is to be regarded as a safe and profitable investment, and not merely as a stake for gambling, with a few big prizes and a multitude of blanks, protection must be given, not merely for the benefit of the landowner, but in the interest of the community at large. Mr. Thomas Adams, the Town Planning Adviser of the Commission of Conservation, contends that the development of city land must be restricted and controlled if cities are to be saved from bankruptcy. Many cities of under 100,000 people are developing and maintaining streets and public utilities which would serve from five to ten times the present population. Under present taxation systems the bulk of this burden falls on the owners of real estate; and this is one of the reasons why real estate as an investment of wealth has failed to attract.

The first form of protection which I may mention is "zoning." Zoning, or "districting," is an essential of city planning, and is the only possible solution of some of our most troublesome city problems. A zone which ought to be established at once in many cities is the zone of immediate development. In any city that has an area larger than that of a standard township, or cities surrounded with municipalities having large areas, and with scattered population, some area should be defined as the zone of immediate development, and public works and utilities refused to outside areas until they can be installed on a commercial and economic basis. Every city, whether large or small, if its development is to be carried out on economical lines, and if its real estate has to have a stable value, must adopt zoning. In most western cities of to-day, direction of growth, main avenues of transportation and other zone defining factors are fairly well known, and zoning is easier in consequence, and less likely to cause an injurious effect on the development of business and industry, than it would have been a few years ago. The sale of real estate in the past was facilitated by the uncertainty of future development. It is handicapped to-day by that very uncertainty, for people look seriously at the risk of loss. In nearly every city without zoning laws we find property values jeopardized by the want of restriction on the use of land. Where there is no restriction we find that industries invade the residential districts. Beautiful homes are spoiled by the erection of public garages or undertaking parlours on the adjoining lots, or by unsightly corner stores; expensive public schools

have their efficiency spoiled by the erection of noisy boiler shops or nuisance industries, hospitals are menaced by fire hazards from wood-working establishments, and the industrial establishments themselves thwart one another's development. Most cities have realized the value of municipally defined industrial areas. "Industrial island," in Vancouver, a very recent creation, made by filling in a part of False creek, has already justified its establishment, because it provides sites of suitable shape with rail and water transportation facilities.

Any city that is cursed with too great subdivision of land into 25 or 33 foot lots, will soon find that if it is to attract any large industries within its boundaries at all, some revision of these subdivisions must be made. On the other hand industries cannot exist without workers; and it is just as necessary that a section or sections of the city should be set apart for the erection of single family dwelling houses for the industrial workers, as it is that sites should be provided for the establishment of the industries. The one feature is the necessary corollary of the other. The establishment of individual homes is considered the best safeguard of the morals, the health, the wealth and the contentment of any city, and every effort should be made to provide, to protect and to preserve such homes. Large employers of labour have discovered their value in securing contented and healthy workmen, increasing the labour output, and reducing the loss through sickness, absenteeism and labour turnover.

Up till the present the securing of small homesites for industrial workers has not been well directed as a rule. Plenty of inducements have been offered to the worker to purchase land, but in many cases the inducement held out has not been the idea of establishing himself a permanent home, but that of a speculation on his part. Many workers have been handicapped for life, and have had to deprive their children of educational and other advantages, because of the drain on their income in keeping up payments on property not really fitted to serve them as a home site.

In an Ontario city of under 20,000 population, I recently investigated a subdivision where Ukrainians, Galicians, Poles, Italians and Greeks were induced to settle on land which was pre-eminently suitable on account of proximity to lake and rail transportation for industrial development, but which on account of drainage difficulties and exposed situation was an almost impossible site for ordinary city development. This land was subdivided in the usual way into small lots and sold at high prices, in fact in 1908 was selling at a higher price per square foot of building land than was paid in the same year for land in Hampstead Garden Suburbs, 45 minutes' journey from the heart of London, England, and at that time regarded as the last word in the layout of residential land in the London area. The Ontario subdivision is to-day a slum of the worst character, a collection of ugly, dilapidated shacks where the people crowd together to keep warm in the winter time, the density of population in some blocks having gone as high as 64 to the acre. It is an eyesore and a menace to the city, though the land value on unimproved areas without public utilities still stands at over \$2,800 per acre and the taxation on this value is four per cent. In Hampstead Garden Suburb the land maintains its value and justifies the establishment of the estate. As one illustration of this let us compare the rates of infantile mortality.

When the infant mortality rate (*i.e.*, the number of deaths under one year per 1,000 births) in England and Wales was 109, the district of Hampstead was 85, but Hampstead Garden Suburbs was 40. In the section of the Ontario city I have referred to the rate was 250—that is, every fourth child born in the area died within the first twelve months,

and the medical officer of health says at least one-half can be attributed to the unhealthy site and defective housing.

Early in 1918 I made a study of the cost of city development of an industrial-worker district in Vancouver. I also took to compare with it a high-class residential district just outside the city limits. As Assistant City Engineer I had official relations with both, and had facilities for obtaining accurate data. A brief summary may be given here.

The working class district, now known as Ward 8, of the city of Vancouver, contains some 400 acres, and was annexed to the city in 1911. About the same time the Canadian Pacific railway was completing the development of 400 acres just outside the city limits. Both areas, however, are between two and two and one-half miles from the city centre, and they are bounded on the north and south by the same avenues. The district annexed to the city is subdivided on standard rectangular lines, mainly into 33-foot and 25-foot lots, nearly 2,400 in all.

It was occupied at the time of annexation by some 3,000 industrial workers, or people of moderate means, and there were only a very few residences which exceeded \$2,000 in value. Three arterial thoroughfares traversed the district; there was thus some opportunity for speculating as to the location of business and the probable car-line streets. This led to an inflation of land values, even though the area was never controlled by large interests, but remained in the hands of many small owners. At the present time not more than five per cent of the improved lots are occupied by other buildings than residences. The price to which land soared under these conditions is revealed in the assessment, which, when it was annexed to the city and before any public improvements had been installed, was equal to \$10,000 per net building acre. That this assessment was not beyond the prevailing land value is shown by the fact that the city, being compelled to purchase school and park sites to the extent of over 7 acres, had to pay an average price of more than \$19,000 per acre.

Though \$3,500 has been spent on street development and the provision of watermains and sewers for every building acre, the average assessed land value for the whole area is now about \$8,742 per building acre. But notwithstanding this still high assessment, the whole of the revenue obtained from the property is barely sufficient to carry interest and sinking fund charges on capital expenditures. It follows, therefore, that the other landowners within the city have to bear the whole cost of the schools, fire and police protection, garbage collection, and general maintenance of the district. There is nothing in the district to call for special comment. It is the far too common type of city development, with houses, stores, and industries all crammed together in some blocks, and other blocks with hardly an improved lot, no attempt at arrangement, no building lines, no segregation of business or industry, a simple go-as-you-please, take-what-you-can development.

In the area selected by the Canadian Pacific Railway Company for development as a high-class residential district, for houses of not less than \$5,000 in value, controlled by building lines and building restrictions, with all business and industry excluded, the streets were formed and surfaced, finished with cement sidewalks, boulevards planted, watermains and sewers installed with services to the property line, and yet sites were obtainable with all these improvements and safeguards at a price as low as the average assessed value of the working-class district, where there were no improvements and no safeguards.

City planning explains the difference both in the original cost and the final result. Hampstead Garden Suburb and Shaughnessy Heights were both planned as residential districts. The promoters knew that

there was a sum which purchasers would willingly pay for homesites on the property, and the selling value of the land was fixed accordingly. They knew that building regulations would wipe out a great part of the usual early speculative value, but they also knew that such regulations would stabilise the permanent factors in the value. Whilst purchasers who were unable to live on the property could only look for a moderate return from rentals, it would be fairly well guaranteed, and resale would not be difficult, thus the security would be good even if the return were low. In the subdivision of the two working-class districts to which I have referred, and in many other cases, the bait to the purchaser was the speculative element. The bait, however, often swelled to such a size that not even a whale of industry or business could swallow it.

This is an age in which "efficiency" is a great catchword. Industrial efficiency, commercial efficiency, national efficiency and personal efficiency are terms constantly before us. An industry or business noted for efficiency is certain to have a higher capital rating than one without that reputation or with a poor reputation, and the stocks or bonds representing the capital of such a concern are sure to be sought after.

If we aim to secure commercial, municipal, national, or even personal efficiency, we cannot afford to neglect city planning any longer. To begin with, there is room for change of method in the original subdivision of land, so as to secure both economy and efficiency. In the rectangular system of street layout, which is generally accepted by any municipal authority as standard town planning, the proportion of street area varies from not less than 30 to as high as 45 per cent, and the writer knows of one Canadian city where, in less than 500 acres of total area, half is community-owned. In seven typical industrial developments carried out by Mr. John Nolen, one of America's foremost town planning engineers, the average of street area is 25.7 per cent, and in two residential districts planned by Mr. Thomas Adams at Ottawa the average is under 23 per cent.

The cause of the difference in the percentage of street area is well known. In the desire to avoid the too narrow thoroughfares of the older countries, most cities here have adopted a standard width for every road, usually far too narrow for main arterial roads, and far too wide for secondary or residential streets. In most cities to-day the expense of street works and street maintenance is one of the greatest burdens of municipal taxation. By proper street planning we can reduce the area by one-third and yet get better results. Capital and annual expenditures will be saved, as well as a great amount of time which is now lost by travelling over unnecessary street space. By systematic planning we can group our industries together, the streets which serve them can be properly surfaced, the watermains and sewers adapted to their requirements, the time required for interchange of commodities between different industrial establishments materially lessened, and the time and cost of transfer of manufactured articles from factory to rail or wharf greatly reduced. Much concern is often expressed over ocean freights; but it is too often forgotten that the cost of trucking a manufactured article from factory to wharf is frequently more than the ocean freight from one continent to another.

Once we secure a good industrial location, if within easy reach of it we have a district where the industrial worker may reside, he may be saved an hour a day of straphanging on street cars, he may have a home safeguarded against the intrusion of foundry or factory, and even preserved from the shadow of an apartment or tenement house. In such a residential district the streets would be so planned that the cost of constructing them and keeping them in good order would not be a burden on the homeowner. Instead of wide, dusty or muddy roads as

the only playground for the children, the area saved by the adoption of more reasonable width would be consolidated into large school playgrounds and parks. By that time we shall have gone a long way to securing industrial efficiency, through obtaining personal efficiency of healthy and contented employees.

If we have also a well established business district, all those whose commercial interests are related will be grouped together, and much valuable time saved, and the owners of homes will not run the risk of having their investments reduced by the intrusion of business houses into any residential districts.

If such plans are adopted in any city, the real estate may experience some change in values during the period of adjustment. Some values may indeed drop. Eventually, however, true values will be established, which will tend to grow and seldom decline. Investment in such real estate will be a genuine investment, bringing regular returns, and the disposal of such investment, if desired at any time, will be greatly facilitated.

Town planning in America in the past has been far too closely confined to the spectacular. There has been little thought of the social side of the subject, no clear vision of the future, no appreciation of the city as a permanent thing or as an agency of social welfare. Even to-day town planning is often misunderstood. To quote Professor Patrick Geddes:—

“Town planning is supposed by many to be a new and special branch of engineering; by others, of sanitation; by others again, of building, or again of architecture, or gardening, or other fine arts. But these differing opinions show that town planning—and let us now use its greater name of city design—is not a new specialism added to existing ones; but that it is the returning co-ordination of them all towards civic well being. It is the civic aspect of the higher and more general level of public and personal thinking which has long been here and there arising. Such more general thinking is now beginning to dominate the unorganized thought of the past and passing generations of specialists, who have been so strong in details but so weak in co-ordinating these. But such scientific philosophy lies in details taken together as factors of life; whilst the corresponding arts of life, and practically therefore of city design, are co-ordinating them towards life more suddenly.

“As the physician must make a diagnosis of the patient’s case before prescribing treatment, so with the planner for a city. He looks closely into the city as it is, and how it has grown and suffered. And, as the physician associates the patient with his own cure, so must the planner appeal to the citizen—he may check and amplify the diagnosis. Successful treatment must be general and constitutional, for though every disease has many outcomes to be relieved, health is a unity, the unity of a sound mind in a sound body. How is this unity to be obtained? Are we simply to go on mainly as at present, providing as many remedies as there are diseases, and now drugging, now inoculating each other against them all, or may there not be some more general way?”

As town planners we feel that in our endeavours to secure a healthier development we must associate with us all those who are primarily interested in the material on which all our work is based—the land. If owners of land are in sympathy with our endeavours, our work will be much easier. If they are against us, our work will be difficult, if not impossible. I have attempted to show that in their own interests the support of the landowners and land agents of city planning movements is urgently required, and I feel sure they are able both to check and amplify the diagnosis I have made.

OTTAWA GARDEN SUBURB

LINDENLEA, the garden suburb of Ottawa, the development of which is being carried out under the administration of the Ottawa Housing Commission, has already established a standard for housing development. The sort of street system—if lines at right angles to each other can be called system—by which most of our housing developments have been straight-jacketed, cannot stand the competition of such projects as Lindenlea, which is but fifteen minutes' ride from the heart of the city.

Such developments are bound to have a profound effect for good throughout the country. They represent an escape from the gridiron development and give a freedom to domestic life which is spiritual as well as physical. Workers who have lived in such towns will not be content with less advantageous surroundings. Building operations must equal these developments or go out of business sooner or later.

If it is worth while, as a civic policy, to encourage escape from congestion to better and healthier living conditions, it is worth while to study out and provide means whereby recreation and neighbourhood can be stimulated.

In the ten-year period prior to 1911 the population of the County of London, England, had fallen off to the extent of 0·3 per cent, whereas in the outer fringes of the metropolitan areas it had increased 33·5 per cent in the same period. This rapidity of decentralization of city population is becoming nearly as great in this country.

There is, however, an imperative need for social and recreative facilities in developments of this kind. This movement has come into prominence since the war, and must be taken into account in preparing housing and town planning schemes.

Men and women returning home from service in the army, used to the recreative huts in camp, have awakened their fellow citizens to the need for social centres, where they can meet their friends and enjoy mutual intercourse during the evenings or find means of self-expression in music, dancing or art.

Suggestions are now under consideration at Lindenlea to promote such a social community project, with the hope of realization when the Community Hall is built.

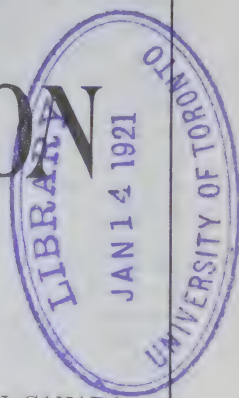
The progress made with this scheme will be appreciated by recalling that it was not until the autumn of 1919 that building operations were commenced, whereas now over 60 houses are completed or nearly so and further contracts have been placed for the erection of another fifty.

The roads are now taking shape, emphasizing the physical expression of the development; also, by utilizing the surplus rock and boulders incidental to the excavation of the houses, the wading pool is being formed. Even the casual visitor must be impressed by the rewarded efforts of the home builders' random rubble paths, grass lawns and beautiful flowers, which are only part of the evidence of the effect of community life under favourable conditions.

It is the duty of all to co-operate in a social and democratic way to create attractive local communities on the outskirts of cities wherever practicable, thereby working in accordance with the broader meaning of housing reform, defined as the furnishing of healthful accommodation purchasable at reasonable prices, adequately provided with facilities for privacy and comfort, easily accessible to centres of employment, culture and amusement, and accessible from the centre of distribution of the food supply.—*B. Evan Parry.*

TOWN PLANNING AND CONSERVATION OF LIFE

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THE COMMISSION OF CONSERVATION

The Commission of Conservation was created in 1909, by Act of Parliament, to promote the economic use of Canada's natural resources. Authentic information respecting the character and extent of such resources, and with reference to the problems associated with their efficient development and their conservation, is freely available on request to the Commission.

LANDS FOR PUBLIC PURPOSES

Their Acquisition and the Apportionment of Cost of Local Improvements

I PURCHASES OF LANDS FOR PUBLIC PURPOSES

IT is frequently found that governments and local authorities have to pay high prices for land required for public purposes. In many cases these prices are enormously in excess of the assessed value of the land. As the assessed value is or should be the "fair market value", and as the public revenues are based on that value, it should have a definite relation to the purchase value for public purposes.

It is possible that in some of the cases the disparity between the assessed value and the purchase price is due to under assessment; but whichever may be the reason for the difference, the public purse has to suffer. Even when a local authority pays a high price for land, it has no cause for complaint if its taxes are based on an assessed value approximating to that price. The grievance is that the revenues suffer at one

end by low assessments and at the other end by high prices for the thing which has enjoyed the low assessment.

It is difficult to find any remedy for this condition, because it is almost impossible to get accurate assessed values, and the natural tendency of owners is both to keep down the assessments and to get a high price when they sell.

There is need for some compulsory measure to secure, first, that owners declare the real value of their land, and, secondly, that they be made to accept a price which is approximate to that value when the land is wanted for public purposes. By public purposes is meant such purposes as parks, playgrounds, street widening, hospitals and schools, and housing schemes carried out by municipalities or housing societies.

The purchase value has frequently no relation to the assessed value. There are farm lands in Ontario assessed at \$41.50 per acre having an approximate market value of \$1,000 per acre. The absurdity of the assessed values is shown in one district of Ontario, where a building and site are assessed by one municipality at \$78,000 and by another municipality at \$5,000, both figures being sworn to under the same Assessment Act requiring a fair value to be determined.

There does not appear to be any better way to solve this problem than what has been known as the "tax and buy" method, which has been carried out in other dominions. There should be legislation enabling land to be acquired *for any public purpose* at the assessed value, plus say 25 per cent for compulsory purchase. In addition to the price to be paid for the bare land, however, there should be provision that payment will be made for the actual cost, plus compound interest, of any improvements carried out by the owner of the land within a stated time prior to the purchase, say 10 years. There should also be provision that if any part of the land is in use for any purpose of trade or industry, compensation should be paid for injury, to be determined by arbitration in case of a difference.

II FINANCING LOCAL IMPROVEMENTS

The practice followed in the United States and Canada of constructing local improvements at the cost of the municipality to encourage settlement has been carried on long after it has served a useful function, until now it is endangering the financial stability of our cities, with the sole advantage of enriching the speculator. This applies whether the municipality recovers the expenditure on local improvement taxes or not. The element of speculation enters into the city's expenditure for local improvements, and the city speculates more freely when it has the power of recovering that expenditure from the users of the land.

Why should cities and towns finance land speculation any more than industrial speculation? It is not done in older countries, and is being abandoned in many progressive cities in the United States.

TOWN PLANNING A NECESSARY PRELIMINARY

Cities and towns should definitely prescribe the part of their area within which they will complete local improvements already begun or continue to construct new local improvements under the method hitherto followed. This area might be limited to the land within a boundary fixed by half a mile of the street railway within the city, or other agreed boundary. Until this area is fixed it cannot easily stop the present process of financing local improvements.

Having determined the area within which they will continue the former practice, and having kept that as small as possible, it will next be necessary to lay down the principles on which local improvements may be carried on outside the area so prescribed. This would include areas likely to be annexed in future. The correct principle is to place the burden of the cost of such part of the improvements on the owners as is necessary for the purpose of the development of their land for building, leaving to be paid by the community the part of the cost that is of general public benefit.

WHAT SHOULD THE OWNER DO?

The owner at present give the land necessary for the streets and makes such improvements as he thinks necessary to sell his land, and the question is what he should be made to do in addition to that. He should construct such pavements and sidewalks as will provide dry and convenient access to the lots and such sewers and drains as are necessary for proper sanitation. He should make the pavement with a proper foundation and a temporary surface of waterbound macadam according to a specification of the local authority.

The water-main being a revenue-producing service would not have to be paid for but should, of course, be provided in advance of building.

The completion of the pavement, either with a bituminous surface or by reconstructing it with asphalt or concrete, would be a proper charge to assess against the frontagers (*i.e.*, residents) in the street. If the original sub-divider carried out a greater share of the improvements in the way above suggested, it would lessen the difficulty of the occupant frontagers in having to meet the cost of the permanent improvements of the street.

In England the entire cost of new street work, including sewers, other than the improvement of existing highways and the construction of trunk sewers, is borne by the owners of the land. Owing to the fact that the local authorities in England do not advance money to the owners to carry out these local improvements, and owing to the requirements of the by-laws, the practice is for real estate operators to construct most of the local improvements at their own expense. One finds little land built on in the suburbs of English cities that is not served with good pavements, sewers and water-mains, and in most cases these have been provided simultaneously with or prior to building. Undoubtedly similar methods will secure similar results in Canada.

The fact that the English city puts the chief burden of constructing local improvements on owners of the land is probably the chief reason why the cost of administration in the English city is so much lower than in the American and Canadian city. According to the *Municipal Year Book*, the average municipal taxes paid in England amount to \$9.75 per capita, whereas in one Canadian city the burden is shown to be \$50 per capita of the population of the city. Unquestionably one of the chief causes of this almost ruinous condition is due to the extent to which local improvements have been financed.

SUMMARY OF APPORTIONMENT

The apportionment of the responsibility for cost of construction between the three parties concerned might be summarized as follows:—

Class (1) City share.—(a) Main trunk sewers.

(b) Excess of cost of intersecting sewers over and above the cost of sewer necessary for developing the land.

(c) Excess of cost of land, and construction of any street or highway wider than 66 ft.; such excess to be the difference between the cost of a street 66 ft. wide and the cost of a street of a greater width required by the municipality.

(d) Such public services as water-mains, electricity, etc., as are revenue-producing.

(e) Taking over and maintenance of highways when completed to an agreed *ultimate** standard in the third classification below.

Class (2) Subdividing Land Owners.—(a) Formation and grading of streets as hitherto.

(b) Construction of macadam pavements, temporary or permanent sidewalks, curbs, channels, surface drainage and sewer in accordance with plans, sections and specifications of local authority up to a *primary* standard necessary to provide dry and convenient means of access to any buildings, and the planting of trees.

Class (3) Purchasers of Lots and Residential Owners.—(a) Completion of surface of pavement to *ultimate** standard by adding surface coating of bituminous material, or, on petition of the property owners, the substitution of asphalt or concrete for macadam.

(b) Substitution of the temporary sidewalk of timber or gravel by a permanent concrete sidewalk if and when desired and the original owner has not constructed the concrete sidewalk.

The cost of the works in the classification (2) ought to be left to be paid for by the building speculator or sub-dividing land owners and the city should not finance such work. The only case in which local improvement taxes should be introduced is to help residential and tax-paying owners to complete the street according to what is called the "ultimate" section in class (3).

The advantage of the above proposals as a means of stopping injurious speculation as compared with any method of introducing higher taxes on land is that they secure the object desired in a more direct way and to the greater advantage of the community.

To get this advantage, however, it is desirable that town planning schemes should be prepared. In the connection discussed in this article, town planning is needed partly for the purpose of providing the basis necessary to plan and define the areas within which the present practice would continue to be followed. This is desirable so as not to make an immediate break with existing conditions and so as to avoid causing injury to private property, in those cases where expenditure has already been incurred under present methods.

Town planning is also needed to enable the width of the streets to be determined in relation to the use to which the land is to be put so that owners can construct their portion of the local improvements at a reasonable cost.

The effects of town planning in reducing excessive values of land but in stabilizing the investment properties of land, have been apparent where schemes have been prepared. If the number of houses that can be erected on the land is limited under a scheme the land becomes thereby reduced in value, as a rule. But this reduction merely arises from destroying the value which accrued from an unhealthy use or density of building on the land. Thus the effect of town planning is to cut down that portion of the value of land which is created by the bad use. The values which accrue from central locations or fine views not only continue to be realizable, but will be more secure because of the restrictions

*The city engineer would prepare two sets of drawings showing first, *primary* sections, plans and specifications to fall in with requirements of class (2), and second *ultimate* sections, plans and specifications to be completed as required for class (3).

on bad use. If we add to town planning the power to local authorities to acquire land as proposed in this article at the reasonably fixed percentage over the assessed value, and also the requirement that owners of lands to be subdivided in future shall themselves construct or finance their local improvements up to a certain *primary* standard, we shall by these three measures go a long way to solve the land question.

These operations would be more beneficial to a city than imposing excessive taxation, which may have the effect of punishing the owner for bad development of land without doing anything to secure good development.—*Thomas Adams.*

ZONING PROGRESS IN UNITED STATES

THE movement for the effective zoning of cities bids fair to win out in the United States. The Supreme Court of Minnesota has sustained the right of the city of Minneapolis to enforce building restrictions in areas set aside for specific residential purposes. An attempt was made to compel the city to grant a building permit for the erection of an apartment house in an area that had been set aside for single dwellings under the zoning law of 1915. One court ruled against the validity of the law, but the Supreme Court reversed this judgment, and in doing so proved that the law is not unelastic to the movement of public opinion.

"The notion of what is public use (says the Supreme Court) changes from time to time. Public use expands with the new needs created by the advance of civilization and the modern tendency of people to crowd into large cities. The term 'public use' is flexible, and cannot be limited to the public use known at the time of the forming of the constitution. It must be admitted that owners of land in congested cities have, of late, through selfish and unworthy motives, put it to such use that serious inconvenience and loss result to other landowners in the neighbourhood. It is time that courts recognize the æsthetic as a factor in life. Beauty and fitness enhance values in public and private structures. *But it is not sufficient that the building is fit and proper, standing alone; it should also fit in with surrounding structures to some degree.*"

CLASSIFICATION OF LAND FOR INDUSTRIAL PURPOSES

IN many cities in Canada ideal industrial sites are occupied by the poorest class of industrial workers, and industries that should be located thereon, in close proximity to transportation, are driven to the suburbs of the city or beyond the city boundary.

Mr. L. W. Donley, Assessment Commissioner for Winnipeg, expressed the opinion that the subdivision of a city into small lots, and consequent multiplicity of owners, is one cause why manufacturers do not locate in the cities.

It is difficult to negotiate, within reasonable time, a sale of property, held by, say, twenty owners, and if the purchase of lots is effected one by one, the price rises with each sale, until the total price is so excessive that it is cheaper for the manufacturer to move out of the city, even if the cartage and other charges are greater.

In his book, *Principles of City Land Values*, page 55, Mr. R. Hurd says:—

"A marked effect of the subdivision of land into small lots occurs in the largest cities, when large plots are needed, such plots having

greatly increased value, technically known as plottage value. From one standpoint this represents the hold up cost of securing the last few lots of a plot, the plans concerning which almost invariably leaking out and advantage being taken of purchasers' necessities."

In all of our larger cities there are areas of downtown property—formerly good middle-class residential property—that have deteriorated, partly through age and partly through the advent of new railways.

This property retains a high valuation because of its assumed potential value, but can only secure a revenue to pay overhead charges by resorting to overcrowding. Owners expecting the property will be sold for mercantile purposes will not spend anything on upkeep, and consequently slum conditions are continually being created.

Any manufacturer looking for a site in the neighbourhood is hampered by the difficulty of negotiating sales with so many owners, and consequently goes where he can buy, say a two-acre site, from one owner.

In a subdivision of twenty lots the following or similar conditions of ownership may possibly prevail in a district such as has been described:

Nationality of owner	Resident or non-resident	Where resident
1 Canadian.....	Resident.....	In city.
2 Italian.....	Non-resident.....	In Italy.
3 Trust Estate.....	".....	United States.
4 Russian Hebrew.....	Resident.....	In city.
5 Pole.....	Non-resident.....	In Yukon.
6 Life Insurance Co.....	".....	New York.
7 English.....	".....	England.
8 American.....	".....	United States.
9 Chinaman.....	Resident.....	In city.
10 Japanese.....	Non-resident.....	In Japan.

What chance is there of a manufacturer or merchant knowing for what price he can acquire such land? To secure an option that is binding a deposit must be made. Suppose the manufacturer starts with lot 1. The resident Canadian is anxious to sell and makes a fair offer. The agent of the non-resident Italian is then approached. Knowing what the property brings in as revenue he realizes that anyone who wishes to buy has some object in view, and, wanting to secure a commission on the sale, raises the price, and perhaps a month at least is needed to get power to sell from the owner in Italy.

To deal with the Trust Estate may take more than a month, and by this time the Hebrew owning lot 5 hears that someone wishes to buy and his price goes up still further. Few will venture to risk depositing money on options with so much uncertainty, not only on the ultimate cost but also the impossibility of knowing when the deal can be completed.

After a district is prescribed as an industrial district, no new residences should be permitted. Necessary alterations and repairs might be allowed to prevent slum conditions arising, if industrial expansion does not follow as quickly as estimated.

The city council, or other specially constituted authority, should then obtain a complete record of the owners and a statement as to whether they wish to sell or not, and, if willing to sell, a fixed price for one year. If assessment were fixed by the price stated, and taxes based thereon, excessive prices would be checked. The danger of undervaluation is remote.

Two steps have now been taken, namely, (1) the classification of the district after a regional survey, and (2) the determination of owners and fixed selling price.

With this information manufacturers would know the districts set apart for industrial purposes and the value of the sites, and, together with the possibility of speedy possession, this would be of great assistance.

The next consideration would be the effect on the value of the property as it gradually developed. Its power of producing revenue might be decreased or increased, but the value of the land might be expected to increase as it gradually filled up with industries. As this value is built up by the industries, it would appear just that a portion of the increment should go to the land already in use, as a rebate on taxes or towards the expense of local improvements. This would check the raising of prices and so keep the cost of the land at a fair price.

When industrial sites have been located residential sites should also be prescribed.

It would then be possible for a working man to own his own home without danger of a foundry, or, as in Vancouver, a match factory, being placed next door.

With the site restricted to residential purposes, land values would not go higher than would show a fair return with rentals obtained from the class of property. If, however, the speculative value upward is removed the danger of a depreciation in value is also removed and the investment would be stabilized.

The standard five cent car fare so long prevalent in the cities has resulted in a concentration of population at car terminals two or three miles from the city centre. In Vancouver the density of population in these outside areas runs as high as 35 to 40 persons to the acre but the inner zones have densities of only 2 or 3 to the acre. Development is retarded because of the uncertainty of the character of the district, but the spread of population means increased expense in supply and maintenance of public utilities, roads, etc., and time and money is wasted in street car transportation, whereas the worker might live within walking distance of the factories.—*A. G. Dalzell.*

TOWN PLANNING INSTITUTE OF CANADA

THE appearance of the first number of the *Journal of the Town Planning Institute of Canada* indicates that town planning is taking its place in Canada as a definite profession and that the science of town planning will be recognized in the future among the other applied sciences that have to do with the development of towns and cities and will take an important place on the curricula of the universities, since its scope is wider and its social significance broader than any one of the single individual applied sciences and since it correlates and humanizes all other applied scientific activities that have to do with the building of towns.

Town planning was born from the travail of social disorganization and for many of the worst evils of civic life it is the only effective and radical remedy. Its philosophy is reaching out already beyond the individual town to the larger ganglia of industrial regions. Regional planning has been superimposed upon town planning, and as the scope of its activities extends it may be found that the name "town planning" will need to be changed, since the scientific development of rural regions has also become a definite part of its programme.

There are now 117 members of the Town Planning Institute of Canada, comprising engineers, surveyors, landscape architects, associate legal members, honorary members, students and associates, reaching from the Maritime to the Pacific provinces. The Institute was formed a little more than a year ago with the object of advancing the scientific study and practice of town planning.

"It was felt by the promoters" says an editorial article "that there was need of an organization that would bring architects, engineers, surveyors and landscape architects into definite professional relation with town planning, with a view to qualification for the increased demand for town planning work. In Britain and the United States scientific town planning has become a definite profession and the Town Planning Institute of Great Britain has been the means of guaranteeing the qualification of its members when the demand has come from towns, cities and rural districts for the preparation of plans for future development. Engineers, architects and surveyors have shown themselves alive to the professional importance of the town planning movement and have been perfectly willing to submit themselves to the necessary studies and examinations that have been imposed by the Institute.

"It is recognized that the most authoritative qualification might best come from the universities, and it is part of the object of the Canadian Town Planning Institute to promote educational courses in the Canadian universities and make town planning a branch of applied science with the imprimatur of the university."

Meanwhile the Town Planning Institute has set itself to do the preliminary work of qualification. More and more demands are being made from towns and cities for the services of professional town planners and already the demand exceeds the supply. Canadian patriotism likes to think that when important Canadian work has to be done its own sons shall have an opportunity to do it. Canada needs town planning but she also needs town planners. The *Journal of the Institute* says:

"The Institute will help to promote the one and to create the other. There have been many volumes written about the need of town planning and the economic and human disasters that have followed the lack of planning. It has been pointed out over and over again that the high taxation of cities is mostly due to the lack of planning for different uses, to the need of the zoning of cities. It was stated at a recent Chicago conference on zoning that practically all the large towns of America now feel that it is almost impossible to continue further without the adoption of a building zone plan. It has been shown that many cities have spent millions of dollars of the people's money in repairing their own mistakes, due to the lack of foresight in planning. The time seems to have come for the definite organization of a body of men who shall be qualified to take the job when the call comes. This is one object of the Town Planning Institute of Canada."

The Journal may also be accepted as some of the manifest fruit of the work of the Town Planning Branch of the Commission of Conservation.

At the International Town Planning Conference held in Toronto in May, 1914, the Canadian delegates passed the following resolution:

"That this representative gathering of Canadian delegates at the International City Planning Congress held in the Convocation Hall of Toronto University on Wednesday, May 27, 1914, desires strongly to pray the Commission of Conservation, in view of the very practical co-operation and interest in the aims and objects of the present International City Planning Conference happily promoted by it, to further continue its good work by the creation of a special Bureau of City Plan-

ning and Housing in connection with the activities of the Commission of Conservation to act as a central body to encourage and co-operate with provincial or other housing and town planning bodies.

Town planning and housing had received much consideration by the Commission of Conservation almost since its inception, and as a result of the conference, held under the auspices of the Commission, a definite Town Planning Branch was established, the services of Mr. Thomas Adams being secured as adviser. Since that time the educational work of the Town Planning Branch has been proceeding in the face of many difficulties. In the old country fifteen years have gone by since the inception of the movement and yet town planning has not reached beyond its elementary stages. The creation of a school of town planners may be taken as one of the most effective means for the establishment of town planning practice in Canada.—A.B.

TOWN AND COUNTRY PLANNING IN QUEBEC

I THE PROBLEM

Municipal Finance—The cost of municipal works and administration in Canada cannot be far short of \$150,000,000 per annum. Education and development of land absorb the greater part of that sum. Probably a third of this is spent in Quebec alone in connection with the development of real estate and the provision of municipal services of various kinds. The greater part of this expenditure is incurred without plan or regulation and accordingly enormous waste takes place in spite of comparatively good administration. Many millions are also invested in unproductive real estate by private speculators who, while failing to profit by their investments themselves, double or treble the amount which industries have to pay for the use of the land. Taxes are high because of these things and not because of mal-administration.

About another \$50,000,000 in Canada is annually lost (of which probably \$16,000,000 is in Quebec) and expended as a result of loss due to fire. A great part of this could be saved if we had better regulations and plans to control the layout and construction of buildings.

It is imperative that we should stop this waste and conserve our municipal resources in Canada. Transportation, road widths, road construction and maintenance, sewage and water supply schemes, preservation of property, better use of the land, all require to be considered and regulated under proper plans.

Public Health—The death rate in Canadian cities, including those in Quebec, is much higher than necessary. Valuable young lives are being sacrificed for want of vigilance and care. Valuable human material, which is the most important factor in production, is being allowed to deteriorate. While the greatest need of the country is increase of population, we are allowing 40,000 people in Canada to die off every year from preventable causes. Loss of life on the battlefield brings its reward in greater strength of national soul; loss of life and deterioration in slums brings its reward in national decay. Industry suffers because the nerve power and physical endurance most needed in the modern workshop are the very things we destroy with bad social conditions. Polluted water and bad drainage systems are inevitable evils resulting from our want of plans.

Inconvenience—Good sites for factories and factory extension, adequate transportation facilities, efficient methods of distribution of traffic by road and rail, cheap and concerted means of distribution of power, all suffer in proportion as land is developed in a haphazard way.

Beauty—Beauty is sacrificed not for utility but simply from carelessness. Natural beauty, which would cost us nothing to save, is destroyed in one place and hundreds of thousands of dollars are spent to create poor artificial substitutes in another place.

II HISTORICAL EXAMPLES OF TOWN PLANNING

Germany has been lauded by some as an efficient nation in municipal affairs and town planning as in other things. When closely studied, however, we find that in most respects it is the kind of efficiency to be avoided. This is not so much because it is a part of an autocratic system but because, judged by results, it is a failure. German planning produces fine public streets and ostentatious buildings, but at the cost of the health of its people, most of whom have to live in barracks, with their high death rate, prevalent rickets among their children and tuberculosis among their adults, much worse than you will find in the crowded and unplanned cities of England.

It is to Italy and France that we have to look for the first inspiring examples of town planning and to England for placing the emphasis in all planning on the home life of the people rather than on spectacular and expensive adornment.

In early Scottish and English history the monarchs used to go to France to find their wives. We thus find a strong French influence in planning of early English and Scottish towns, particularly in the latter, for Scotland and France were more closely bound together in those early years than Scotland and England. Among the earliest town planners was Edward I, who was a son of Eleanor of Provence, in Southern France. Henry II's marriage to Eleanor brought under his crown the French districts of Poitou, Guyenne and Gascony, *i.e.*, the western portion of Southern France. In the struggles that afterwards ensued between Henry and Louis IX for supremacy in Southern France, great attention was given by both kings to the development of the towns, which were the bases for military operations. New towns were planned and founded. The French and English kings and the great suzerains vied with each other in building these towns. In 1298 Edward I wrote from Bordeaux to London asking the authorities to send him four competent town planners—"those who best know how to divide, order and arrange a new town in the manner that will be most beneficial to us and to the merchants."

Thus, while yet the western hemisphere was unknown to Europeans, and 236 years before Jacques Cartier sailed from St. Malo and discovered the St. Lawrence, and 310 years before Champlain planned Quebec, Edward I of England, son of Eleanor of Provence, was busy planning new cities in Southern France.

The influence of this work on Europe was enormous. Germany, Italy and Sweden all derived inspiration from it, but in some cases with unsatisfactory results owing to its being accompanied by land speculation and indifference to public health.

The towns were laid out in regular form with straight rectangular streets as the modern Canadian cities are laid out. The plots were laid out in parallelogram shapes and of uniform size; the streets were 24 ft. wide and the lanes 16 ft.—with 6 ft. passages between each house—partly as a protection from fire. Monpazier, in the department of Dordogne, is the best example of these towns. Its square market place was surrounded by closed in arcades. Libourne, Sauveterre, Monsegur and La Linde were all laid out by Edward I.

The grand manner of planning began in Italy in the 16th century and spread to France. Bernard Palissy wrote a treatise about that

time on the laying out of a model city. Emmanuel Hère planned Nancy in the early part of the 18th century. The building and lay-out of Versailles was one of the effects of the Italian influence on the French kings. The planning of Edinburgh, in the latter part of the 18th century, shows that the example of France had spread to Scotland—and Paris and Edinburgh are two of the finest cities in Europe.

MONTREAL HAD FIRST TOWN PLANNING LEGISLATION IN CANADA

An effort was made to plan Montreal about the same period. The Legislature of Quebec passed an Act, in 1799, authorizing the appointment of a surveyor, "who should draw plans of the city and land adjacent and that commodious streets should be opened and ground reserved for public squares." Montreal was thus the first city in Canada to have the benefit of town planning legislation.

When Washington and Jefferson wanted a town planner for the new capital of the United States, they brought over Major P. C. L'Enfant from Paris.

Then came the great scheme of the re-modelling of Paris in 1850, carried out by Haussmann, under the direct instructions and with the help of Napoleon III, at an ultimate cost of \$250,000,000.

PLAN OF QUEBEC

Champlain's plan for the *abitation de Quebec* provided in a miniature form for the requirements of a city—storehouses and shops, workmen's lodgings, galleries, gardens and the vacant space fronting the St. Lawrence river. We have his plan as a reminder to us that Quebec did not suffer from its founders but by the speculators of later generations. The strategic position of Quebec has not yet been fully appreciated, and a plan should be prepared to make it fitted for its great future.

In this century, where the English and French peoples that have enjoyed the l'entente cordial, that have intermarried, that have contributed to each other's genius and have added to each other's power—since the early days of English and French civilization—with sundry and passing breaks, not due to racial animosity but to the ambitions of politicians—in this country where these two races are allied together in building up a great commonwealth, we might well look to the fathers and mothers of both for inspiration in the planning and arrangement of our cities and of the dwellings of the people. Is it not the province of Quebec, with the inspiration before it of the greatest town planners of the past, with the incentive given to it by its own early example in town planning legislation, that should be the leader in the movement for better city development?—*Thomas Adams.*

SATISFACTORY PROGRESS OF TOWN PLANNING IN SASKATCHEWAN

Report of Town Planning and Rural Development Branch for year ending April 30, 1920, by M. B. Weeks, Director of Town Planning:

The first work undertaken by the branch after its organization was the preparation of the various regulations necessary to bring the Act into operation. These are as follows: "Town Planning and Rural Development Procedure Regulations, relating to Schemes and Bylaws;" "Regulations Respecting New Streets and Subdivisions;" "Model Regulations Respecting New Development for Adoption by Urban

Municipalities;" "Model Regulations respecting New Development for adoption by Rural Municipalities."

In the preparation of the above, valuable assistance was given by Mr. Thomas Adams, Town Planning Adviser, Commission of Conservation, Ottawa. When completed the draft regulations were revised in the office of the legislative counsel and received approval on May 19th.

The Regulations Respecting New Streets and Subdivisions were issued as soon as printed, with an intimation that all subdivision of land made after June 1, 1919, must be submitted for approval in accordance therewith. To provide for the approval of subdivisions of which the survey had been made prior to June 1, 1919, an arrangement was made by which such subdivision would be approved by the director of surveys under the former regulations of the Department of Highways, provided the plans were submitted for approval prior to January 1, 1920.

The first application for approval of a development plan was received on August 21. The applications received and dealt with are given in detail in the schedule attached hereto.

Amendments to *The Town Planning and Rural Development Act* were recommended and secured at the last session. The changes made were chiefly in part II of the Act dealing with new streets and subdivisions. One amendment struck out all reference to previous regulations affecting the subdivision of land issued under *The Land Titles Act* and *Highways Act* and set forth briefly what particulars are to be dealt with in regulations respecting new development when adopted by a local authority. Where a local authority fails to adopt regulations the minister may order that from and after a date fixed by him such local authority shall be responsible for the approval of the plans of new streets and subdivisions and every such approval shall be given in accordance with the regulations prepared and prescribed by the minister for the use of such local authority. Although only two urban municipalities have adopted regulations, no action under the above section is recommended until a model development bylaw has been prepared and distributed.

In the same part of the Act a new section was inserted designed to give further control over the location of a new townsite and the roads connecting the streets of the subdivision with the road allowances bounding the section in which the townsite is located.

Among the matters to be provided for in a development bylaw or scheme as set forth in schedule (A) to the Act are clauses dealing with the minimum distances at which buildings may be erected from the centre line of a street. These have been amended to allow of the erection of buildings on streets 66 feet in width which are not main thoroughfares, without a set back, but on streets less than 66 feet in width no building shall be erected nearer to the centre of the street than 33 feet.

The regulations respecting the subdivision of land which govern the submission of applications to the director for the approval of development plans were amended to permit of the omission of lanes in (1) the subdivision of an area for the purpose of a summer resort; (2) in the subdivision of urban areas for residential purposes where the lot frontages are not less than 40 feet in width, provided access to the rear of the lots is secured by means of building restrictions and the proposed arrangements are satisfactory to the local authority. Also in any area where building lines are not established by municipal bylaw,

restrictions in that regard may be omitted from the plan unless proposed to be enforced by the owner of the subdivision.

The Procedure Regulations Relating to Schemes and Bylaws, and Model Regulations Respecting New Development were mailed to the clerks of all cities and towns. To the secretary treasurers of all villages there were sent copies of the Model Regulations Respecting New Development and in the explanatory letters accompanying all the regulations issued, the local authority was urged to take action towards controlling new development by adopting regulations. Two local authorities, namely, the villages of Viscount and Rhein, have adopted the model regulations.

The services of the branch have been freely offered to local authorities when action under the Act was contemplated, and in this connection Mr. W. A. Begg, Town Planning Engineer, visited Swift Current, Vonda and Earl Grey.

An important part of the work of the branch has been advising with respect to the preparation of development plans. Inspections of property were made at Saskatoon, of the "Drinkle property," in the northwest quarter of section 33, township 36, range 5, west of the 3rd meridian, Hudson's Bay Reserve, Fort Qu'Appelle, and at the proposed new townsite locations on the Turtleford northwesterly branch of the Canadian National railway at Cleaves, Spruce Lake and St. Walburg.

Considerable headway was made during the winter months with the assembling of data and information from which a model development bylaw could be prepared. A draft bylaw is now undergoing revision by the attorney-general's branch. According to the Act each local authority must, before December 15, 1920, prepare for adoption a scheme or a set of development bylaws. In view of the war conditions which existed when the Act went into force and the late date at which the regulations were issued, an amendment to the Act is recommended extending the time for a further period of one year.

DEVELOPMENT PLANS APPROVED

TOWNSITES.—Laporte, Artland, Eskbank, Fonehill.

ADDITIONS TO HAMLETS.—Mikado, Dafoe, Shaunavon (adjacent to), "Dennis Bay" resort, "Block A" addition to "west end", "Bird-point" resort, Lowe's Lake (parcel A), Hudson's Bay Reserve, Ft. Qu'Appelle, Insigner ((parcel), Amazon (parcel), "Humboldt Beach" resort, Valparaiso.

VILLAGES.—Theodore, Norquay, Viscount, Semans, Verwood, Stockholm, Hepburn, Bruno (blocks 11 and 12), Sheho, Semans (new street), Creelman, Lemsford (parcel), Tramping Lake(parcel), Glen Ewen (parcel), Holdfast (parcel), Tuxford (parcel), Colonsay (parcel), Eyebrow (parcel), Stockholm (St. Joseph's addition), Wawota (parcel), Earl Grey (part block D), Conquest (parcel), Loreburn (parcel), Colonsay (parcel), Kennedy (part block C), Theodore (pt. blocks D & 11), Semans (block 11), Foam Lake (parcels), Bridgeford, Killaly.

TOWNS.—Estevan (block 60), Govan, Yellowgrass, Davidson (lot 17, block 16), Yorkton (industrial sites), Wynyard, Davidson (parcel G, Reg'd plan P. 3821), Yorkton (lot A, block 4).

CITIES.—Regina (blocks 536 and 536A).

DEVELOPMENT PLANS NOT APPROVED (PENDING COMPLETION OF THE APPLICATION).—Saskatoon addition, Lajord addition, Prairie River townsite, Norquay addition.

HISTORY AND USES OF AERIAL PHOTOGRAPHY

BY MAJOR H. K. MAXWELL

Late Officer in Charge of all photographic training in Great Britain, Egypt and Canada. Air Ministry, London

AERIAL photography, as now known, is divided into two branches, vertical and oblique, the former being the more useful, and the style from which maps are made, while the latter is more pictorial and easier to understand.

Although the war brought this branch of photography to a really wonderful state of perfection, the results obtained under war conditions were found to be very unsatisfactory from a peace-time point of view, and it became necessary for this work to reach a very much higher plane of perfection with regard to correctness of scale, etc., before it could be of any real value for actual aerial surveys and maps.

The war mosaic was really little more than a pictorial record of the ground covered, the scale generally being not correct to more than one-eighth of an inch; for the method by which the majority of these mosaics were made was to obtain an Ordnance Survey map, usually about 1/20,000, mount this on the enlarging easel and enlarge or reduce the various negatives so that they fitted as nearly as possible over the same terrain on the map. If the present methods of doing this work on the ground had been evolved during the war, and not just during the past six months, there is little doubt that practically every vertical negative taken on the British front could have been utilized, and successfully corrected, so as to form and become part of an accurate "scale" mosaic, such as can now be made.

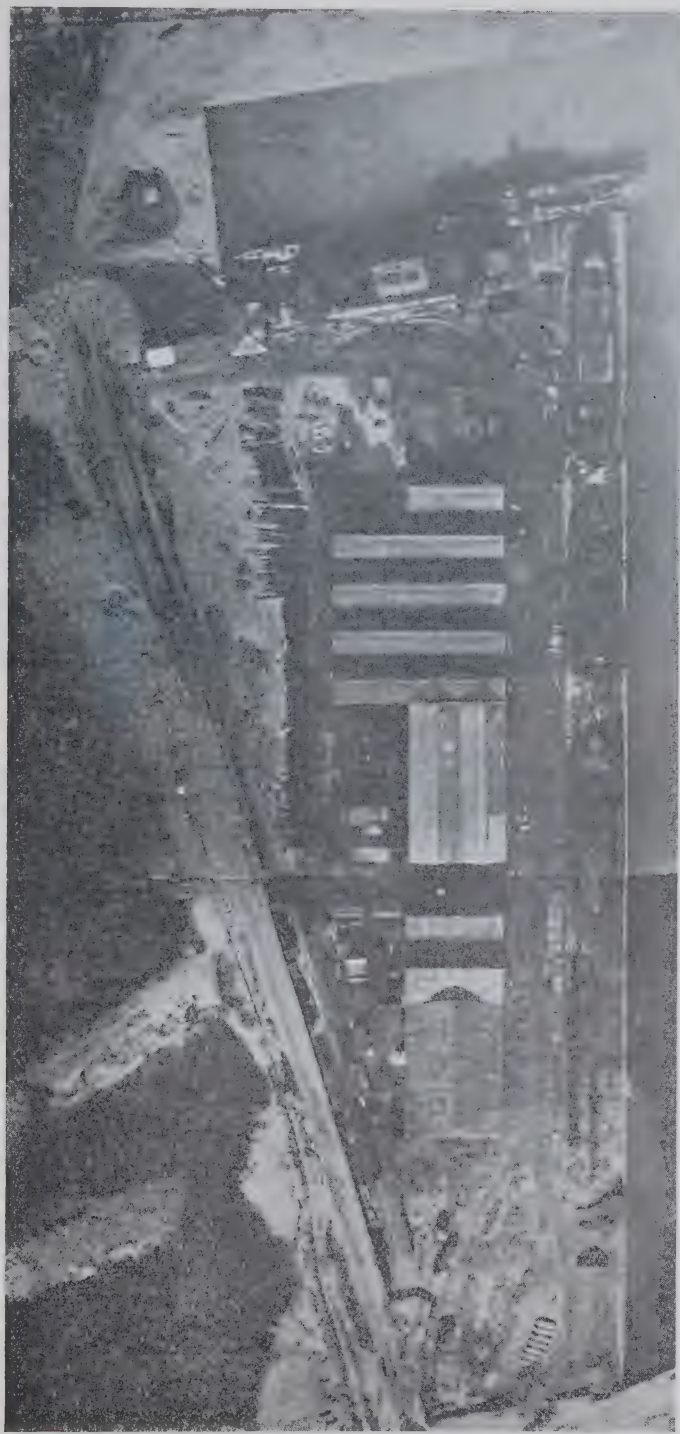
There are several possible ways in which this work could be carried out, and the writer has spent the past twenty-one months experimenting with various methods, in order to find out which is the best for obtaining the necessary result. Many of these experiments were carried out in England, but the latter part of the time was spent in trying to make a mosaic of the city of Cleveland for the New York Central railroad. This work to date has not been completed, nor is it altogether successful, the results obtained being spoiled, in the majority of cases, by bad flying, unsuitable weather and an absolute lack of unskilled photographic labour on the ground. More than enough progress was made, however, to revolutionize the old methods of making these maps, and it can now be said with absolute truth that an aerial mosaic can be made not only accurately but reasonably quickly.

One other fact emerged from these experiments in the most emphatic manner, and that was the absolute impossibility of getting the ordinary photographic studio, commercial or otherwise, to undertake and carry out this work successfully. For those undertaking aerial photography, on a large scale, it is absolutely essential to have their own dark rooms and photographic personnel, and not to attempt in any way whatsoever to get their work done by an established studio.

Aerial mosaics for commercial purposes can be made in two ways:—

1. By matching each photograph so that they will overlap, and join up with an error of say not more than 1/40 of an inch, on a scale of 800 feet to 1 inch.

2. By joining and matching each photograph so that the error in scale between any two given points on adjoining photographs will not be more than 1/40 of an inch, on a scale of 800 feet to 1 inch. In this way it is possible that every photograph will not match correctly



AN AERIAL MOSAIC
Dominion Shipbuilding Co., Toronto.
Copyright photo., courtesy Bishop-Barker Aeroplanes, Ltd.

at the edges (as it is not yet possible to obtain correct contours from the air).

A fitting allowing the camera always to remain parallel to the ground, irrespective of any position the aeroplane may assume at the moment of exposure, has now been perfected, but even with this, it is essential to have a first-class pilot, who has had considerable photographic experience (if possible, on actual war photography), who can not only fly an absolutely straight line, but also hold his altitude within a few feet for a considerable period of time, and know by the feel of his machine, quite apart from his instruments, whether he is flying level at the moment the exposure is being made. A bump under the tail or wing of the machine at the psychological moment will always, with a fixed camera, and sometimes with a control suspended camera, give bad distortion on the resulting photograph, and, although this can now be corrected on the ground, it is, of course, infinitely preferable to have as many correct results after a flight as possible.

USE IN TOWN PLANNING

Practically two-thirds of the work in mosaic-making is in the photographic dark rooms. When the plates or films have been developed and contact prints made, they are closely and thoroughly examined by a competent civil engineer, one experienced in survey work and town planning generally, who has further been specially trained for this sort of work. This is essential to successful completion. Errors, if any, due to distortion, etc., in each photograph can be checked and corrected, which, with the new methods now at our disposal, can be done accurately and quickly.

With this part of the work completed it is not difficult to make a mosaic with the photographs matching each other exactly. Under present conditions, work of this nature should not cost more than \$100 per square mile, provided, of course, that the terrain to be covered is not high mountains, or otherwise inaccessible and difficult country.

To make a mosaic of a city or town to an accurate scale at present, one has to adapt the actual survey records of the terrain which is being covered to each photograph, so that they can be brought actually to the desired scale and tied to the adjoining photograph exactly. Work of this nature is highly skilled and exceedingly difficult to carry out, and would probably cost two or three times as much as a mosaic made in the other manner. The difference, is that, while the "matched" mosaic forms a map good enough for most purposes, the accurate "scale" mosaic is almost certainly a better map than anything that can be made on the ground by surveyors, except after a vast amount of work, and at enormous cost.

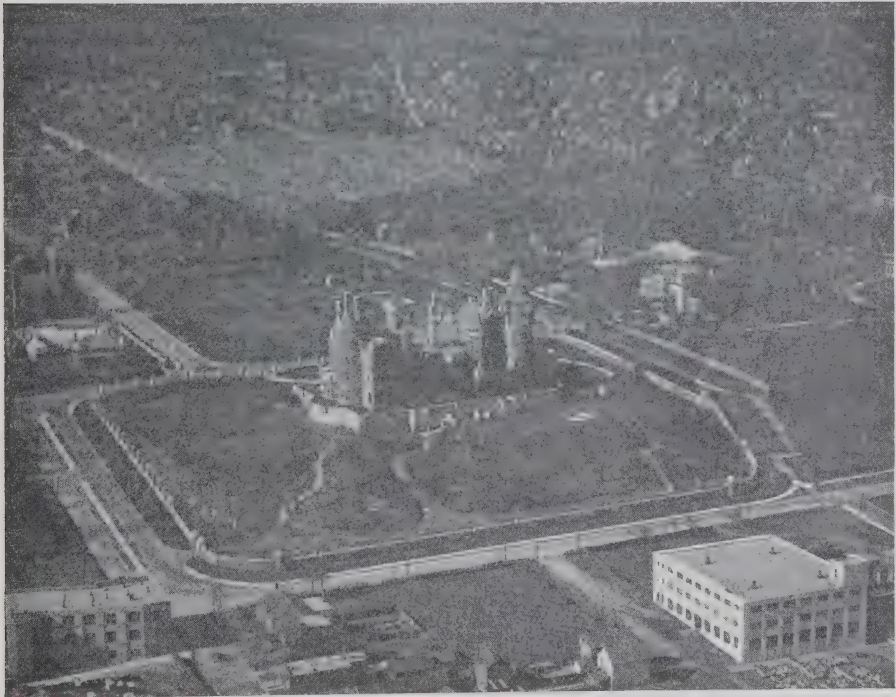
For instance, reliable authorities are of the opinion that the surveying and accurate mapping of one square mile of any city would take a party of sixteen men about two and a half months, and cost about \$4,000, while a similar area could be mapped from the air, and made accurately to any scale from 150 feet to 1,000 feet to the inch, and the work easily completed inside two weeks, at a cost of certainly not more than \$500 to \$600.

COMPARISON BETWEEN MAPPING FROM AERIAL PHOTOGRAPHS AND GROUND SURVEYS

At this point, it would perhaps be as well to try and compare the two methods of work. While the original ground map made by the surveyors would, of course, be correct, if properly carried out, it would



A BAD OBLIQUE AERIAL PHOTOGRAPH



A GOOD OBLIQUE AERIAL PHOTOGRAPH

Casa Loma, Sir Henry Pellatt's home, Toronto. Photo, courtesy Bishop-Barker Aeroplanes, Ltd.

only give a bald outline of the area required; streets, bridges, railways, rivers and canals being about the only objects of any prominence that would be shown.

The aerial photographic mosaic, on the other hand, would give a complete and actual pictorial record of what is on the ground, showing the position and shape of every building, the state of all roads and sidewalks, street car tracks, etc., the condition of all open spaces, river banks, etc., and everything else which visibly existed in that area, all of which would appear to a correct scale, and beyond question, as they actually appear on the ground.

It is necessary for the ground surveyor to work with the utmost correctness along his traverse, for the reason that any errors here are cumulative, and an error or careless calculation, either in azimuth or distance, would be practically fatal. On the other hand his "side shots" can be approximative, for the reason that mistakes here are merely local and not cumulative. The aerial photograph, however, shows none of these distinctions, but gives the same accurate results throughout, and is, therefore, in most respects a considerably more careful method of surveying than most of the methods now in vogue.

The uses that maps of this nature can be put to are so various that the possibilities for this sort of work are almost unlimited, and once the various civic bodies and large industrial and commercial organizations realize their uses there is little doubt that these mosaics will have to be used as well as, if not instead of, the maps now in vogue.

The aerial mosaic properly used is helpful to ground surveyors in filling in the location of houses, small unused roads, fields, clumps of timber, etc., on existing maps, as the position of such minor details is not important enough to justify the expense of having an actual ground survey made.

City surveyors, engineers, railroad and street car companies, real estate agencies, fire insurance companies, etc., cannot possibly afford to be without them, for in the case of any legal or other dispute an actual photograph would always be accepted rather than a map of the same area drawn by hand.

A railroad, thinking of laying out a new branch line, would find it easier to have the contemplated area photographed from the air; as the resulting mosaic would show just which was the best route for their surveying partly to cover.

Numerous possibilities exist in the photographing of large areas of timber lands; ground surveys of this type of country are almost impossible. Not only can a satisfactory mosaic be made of timber lands, but by using plates and films of various colour values, photographs could be obtained showing the various types of timber.

OBLIQUE VIEWS—NEED FOR SKILLED PHOTOGRAPHERS

The bird's eye, or oblique, aerial view is undoubtedly the most picturesque and interesting to the general public, and can be very easily used either by itself or in connection with vertical pictures of the same area.

In order to show some of the difficulties that lie in work of this nature, it must be explained that the oblique photographer must not only have an exact knowledge of what makes or does not make a picture, but he has to work fully one hundred times as fast as he would on the ground, and further, has only two or three seconds in which to make up his mind as to whether the picture he is flying towards, at probably ninety miles an hour, is the one that will give him the best results possible. He is entirely at the mercy of his pilot, who, to insure the

best results, must place himself entirely at the photographer's orders, obeying every signal implicitly, as only in this way can really good results be obtained.

Some of the qualifications required of a good oblique photographer are the capacity to see and obtain without any doubt whatsoever any definite pictures which he has been sent out to take, with possibly but three seconds in which to take each of them, and with enough knowledge of flying to direct his pilot with absolute safety, as to where and how, and at what speed and height he should fly.

A good aerial oblique photographer should be successful with at least 90 per cent of the plates or films he has exposed, for, should he fail to obtain what is required in more than one instance, another flight will almost certainly have to be made. While this was of no great consequence in government machines, it is a very serious matter to a firm carrying out this work for profit.

As an instance of what this may mean, an aeroplane firm in this country, last summer, had a large series of postcards and scenic views ruined through their aerial photographer failing to obtain any results of a large number of towns running from Windsor to Toronto, with the result that this work had to be done again, at a cost of some \$1,500 to \$2,000, thus leaving no profit on that part of the series whatsoever.

Oblique photography has, until the present, only been used by itself, but it can, without question, be combined with vertical photographs of the same area, thus aiding the inexperienced eye to read these photographs easily and correctly.

While it is exceedingly doubtful whether this class of mapping will ever supersede the present methods, there is little doubt that it goes hand in hand with them.

HOUSING CONDITIONS OF NOVA SCOTIA MINERS

THE report of the Royal Commission that recently investigated mining conditions in Nova Scotia calls the attention of the provincial and municipal authorities to the unsatisfactory living conditions of the miners and urges upon them the necessity for improvement.

The following paragraphs set forth the view of the commissioners:

"In view of the fact that the housing, domestic surroundings and sanitary conditions of the miners are, with few exceptions, absolutely wretched, and that such conditions have a deterrent effect on the miners' ability to produce coal, and are a menace to themselves and families, and, further, that children brought up in such an environment have not the same chance of life and health as children reared under better conditions, as proven by government statistics as to infant mortality, it is recommended that the companies that own the houses put and keep them in proper repair, and that a sewerage system be devised and inaugurated whereby surface closets will be eliminated, or that installation of a modern septic sewerage system be provided where it is found that the ordinary sewerage system is not feasible. Suitable kitchens should also be provided where they do not now exist.

"In the matter of water facilities for the houses of the mine workers, your commission recommends that an adequate supply be furnished and so conveniently located that the miners and their families may avail themselves of it. Pure water, which is an essential, should be supplied each family in a quantity sufficient for all purposes of domestic use."

In the United States and Great Britain similar revelations have been made within the last year. During the investigations of the Coal Commission in Scotland a report of the medical officer was read by Judge Sankey. At the close of it a representative of the mine-owners said that if such conditions really existed they must be righted. The time has surely come when mine-owners may reasonably be expected to know that such conditions do exist and to take steps to put an end to them.

In Nova Scotia a Town Planning Act was passed in 1915, but a town planning department has not yet been created. If there were such a department in existence, with an efficient town planning director, such director could call upon the municipalities to put an end to such conditions and see that miners and their families got a chance to live decent lives.

The Dominion Coal Company is adopting an enlightened policy in this matter, and has appointed a superintendent of welfare to look after the social interests and the housing conditions of the workers. The company is taking a special interest in securing plans for the development of residential areas in connection with new pits which it expects to open in the near future. The Town Planning Adviser to the Commission of Conservation has been consulted by the company, and, at its request, paid a preliminary visit to Sydney during the summer months.

The eradication of all the established evils in the mining districts is no small matter, but there is no excuse for neglecting the prevention of these evils in the new areas. The Dominion Coal Company appears to be alive to the necessity of preventive measures, and will doubtless accept the recommendation of the Royal Commission to apply such remedies to existing conditions as are possible.

In apportioning the responsibility for bad conditions it should not be overlooked that this rests primarily with the local government, partly provincial and partly municipal. No action of the Dominion Coal Company can completely settle the problem of sanitary housing without the co-operation and oversight of the provincial authorities. Nova Scotia, unfortunately, has no department of municipal affairs to take the initiative in giving co-operation and assistance in connection with the development of new and small municipalities. The report of the Royal Commission should be taken to heart as much, if not more, by those responsible for local government than by those whose interest in housing must always be tempered by self-interest, enlightened or unenlightened. That self-interest must lead in time to improvement of housing conditions, but permanent improvement will be dependent upon the co-operation of governments and private firms.

A recent number of *Housing* contains pictures of rows of neat cottages that have been erected in the colliery districts around Lens, where, in 1918, not a house or a cottage remained in which refuge could be found. Before the war the district was famous for the garden villages erected by the colliery owners for the miners, and close by was the research laboratory, with an international reputation, dealing with problems of ventilation in mines. "The rapidity with which the reconstruction work is being carried forward", says the writer, "in this area is an indication of the spirit in which that country is grappling with a housing problem far more critical than our own. Clearly, at Lens, all concerned—government, architects, contractors, labour—have played their parts with a will and have worked unitedly to rebuild at the earliest moment the homes of the returning townsfolk of Lens."

SOCIAL WELFARE

THE special numbers of *Social Welfare*, official organ of the Social Service of Canada, on housing and town planning show that the church leaders of Canada are fully informed on the social and moral significance of better housing and better town development, and are anxious to give their powerful influence to all efforts that are put forth by provincial and municipal officials in these directions. The October number supplies a mass of evidence of deplorable housing conditions in the cities of Canada from coast to coast, while the November number offers to its readers constructive suggestions on town planning lines as the best means for the improvement of these conditions.

The lesson is being slowly learned in Canada, that has been more fully grasped in the older countries, that the cost of wrong development of town areas for the purposes of industry and homes—the cost in taxes and in the waste of human life and energy—becomes in time almost too great to be borne, and the social evils that are the entail of it practically beyond remedy. Sometime the public demand that the continuance and propagation of these evils must stop will become so strong that no responsible legislator will be able to ignore it. The church has the opportunity of speaking with massed voices, and it would be astonishing indeed if it had nothing to say on the problem of rational town development and the housing of the people.

BUILDING THE CITY OF TO-MORROW

When we build, let us think that we build forever. Let it not be for the present delight, not for present use alone. Let it be such work as our descendants will thank us for, and let us think as we lay stone on stone, that a time is to come when those stones will be held sacred because our hands have touched them, and that men will say, as they look back upon the labour and wrought substance of them, "See! This our Fathers did for us."—*John Ruskin*.

ADVANTAGES OF THE SEMI-DETACHED HOUSE

THE subdivision of small tracts of land for housing purposes is proceeding in the suburbs of many towns and cities on the old dreary and obsolete methods of land sweating, and with no recognition of the possibilities for architectural, social and economic improvement that modern town planning has brought into view.

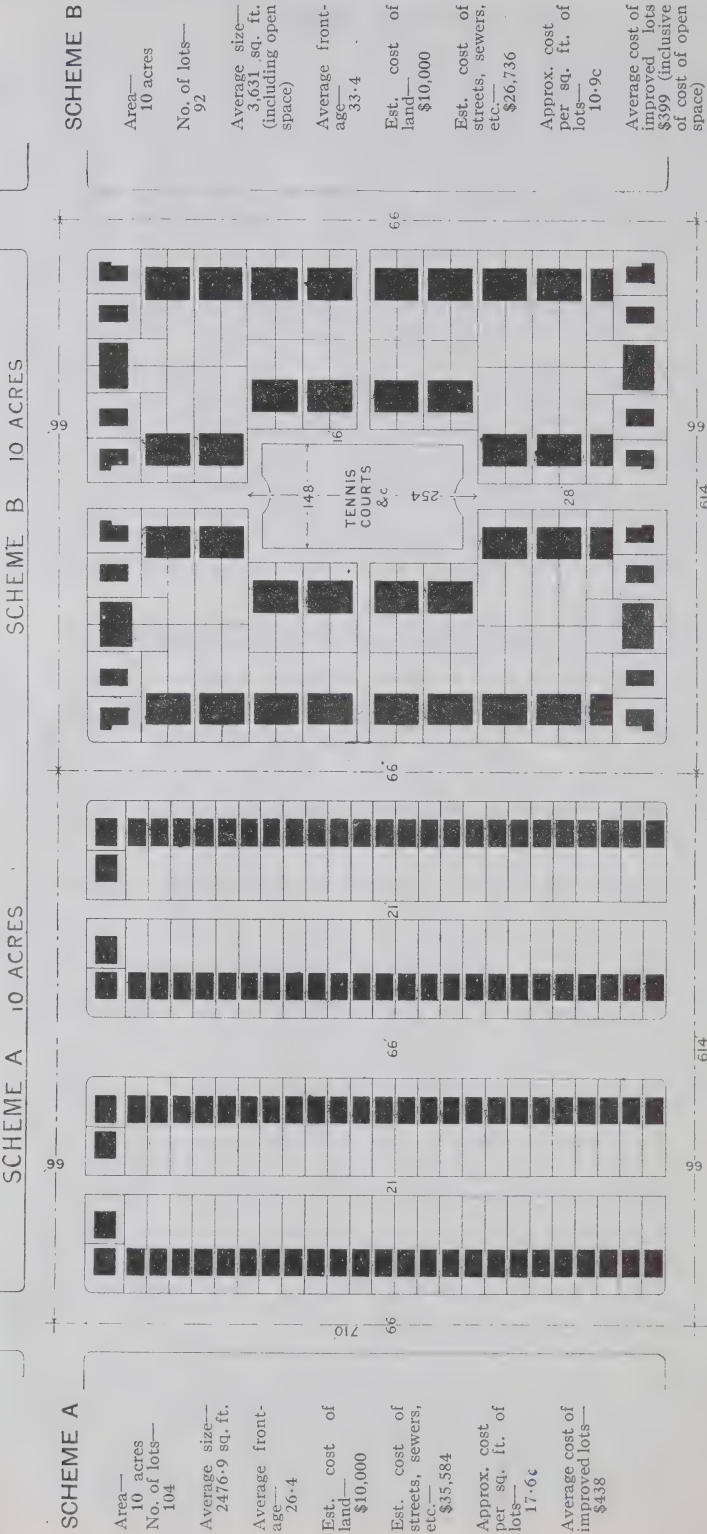
The insistence on separate and detached dwellings is one of the causes for lack of progress in the planning of small sites. With the "doubling-up" of families in single houses that is going on in practically all the Canadian cities the integrity of the claim that the separate and detached house for every family is a national fact can no longer be sustained.

The accompanying diagrams show that the adoption of the principle of the semi-detached house could be made to promote such advantages as reduced cost of the improved lot and of local improvements (streets, sewers, etc.); increased size of lot and width of frontage; better opportunities for architectural treatment, and, not least important, provision for recreation for both adults and children.

And, for those who sell and those who buy, the argument of Mr. L. K. Sherman, President of the United States Housing Corporation, may have appeal. "We have learned," he says, "that the proper town planning and planting increase the selling value of a house more than any other dollar of investment".

"Beauty and fitness," says the Supreme Court of Minnesota, "enhance values in public and private structures." (See pp. 90-91.)

ALTERNATIVE SUB-DIVISIONS



Dwelling Houses (Detached & Semi-detached) Shown Thus

The cost of the land is the same in each scheme, A, B, C and D. The difference in the figures is in the cost of the local improvements, due to different systems of planning. Detached houses are shown in Scheme A as being typical of development in Canadian cities. In the other schemes most of the houses are shown in pairs, which is a more desirable arrangement where practicable. Whether the houses are single or in pairs, however, has no bearing on the cost of development of the land.

ALTERNATIVE SUB-DIVISIONS

SCHEME C 10 ACRES

SCHEME C

Area—
10 acres

No. of lots—
60

Average size—
5786.5 sq.
ft. (including
open space)

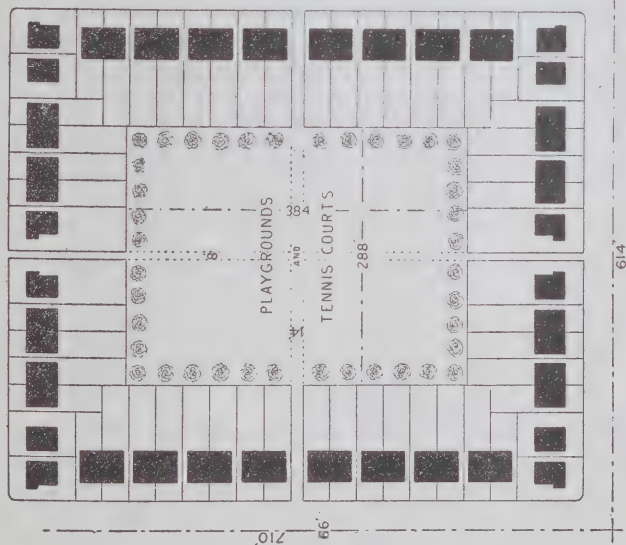
Average front-
age—
34

Est. cost of
land—
\$10,000

Est. cost of
streets, sewers,
etc.—
\$20,748

Approx. cost
per sq. ft. of lots
and open space
8-8c

Average cost of
improved lots—
\$512 (inclu-
sive of cost of
open space)



SCHEME D 10 ACRES

SCHEME D

Area—
10 acres

No. of lots—
82

Average size—
4162.8 sq. ft.
(including
school lot)

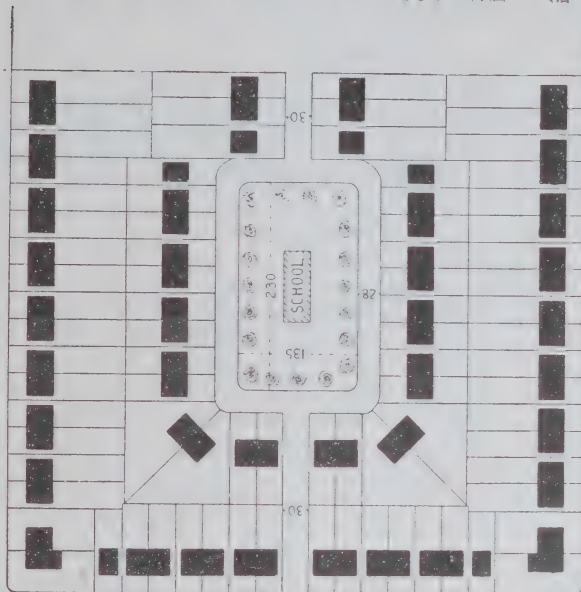
Average front-
age—
32.5

Est. cost of
land—
\$10,000

Ext. cost of
streets, sewers,
etc.—
\$23,533

Approx. cost
per ft. of
lots—
9-8c

Average cost of
improved lots—
\$408 (inclu-
sive of cost of
school lot)

*Dwelling Houses (Detached & Semi-detached) Shown Thus*

The saving in road space in Schemes C and D increases the size of the average lot over what is obtained by mere reduction in the number of lots. Scheme D differs from the other three schemes in that it represents the development of one-half of a 20 acre block and has no street frontage on one side. The interior streets in schemes B and D are deliberately designed to hinder through traffic.

TOWN PLANNING IN FRANCE

According to Mr. George B. Ford, a New York city planner who has spent the last five years in France assisting in connection with town planning the devastated regions on the war front, the French Parliament passed a compulsory Town Planning Act in March, 1919. Mr. Ford says that in the devastated regions there are at least 2,600 towns and villages for which new town plans are being made. These will have to be approved before any permanent re-construction can be authorized. Mr. Ford investigated the conditions in these towns and villages and found that at least 1,000 of them needed competent town planners. Up to December 31, 1919, about 400 plans had been approved by the local town councils and submitted to the Prefect of the Department and 1,000 more were in preparation. As soon as these plans are received at the Prefecture a public hearing is announced which continues for fifteen days. Up to December 31, 225 plans had been presented at the public hearing and 65 had been returned to the Prefecture and all formalities completed.

The next step is to present the plans to the Department Town Planning Commission, of which there is one in each of the ten liberated Departments. Up to the end of the year there had been about 50 meetings of these various commissions at which about 30 plans had been studied. Up to December 31, only four plans had been definitely approved by the Departmental Commissions and 34 more had been tentatively approved. Three plans had been actually put into effect by the municipalities. Plans of all towns of over 10,000 persons must be sent to the Superior Town Planning Commission attached to the Ministry of the Interior at Paris. Up to February 20, no plan had been submitted. The Superior Commission, however, is busy issuing instructions tending to improve and standardize town planning practice.

There is much difficulty in the finding of competent town planners. This is due to the fact that very few architects or engineers understand town planning according to the English and American practice and also to the fact that town plans are not as well paid for as other architectural and engineering work. Mr. Ford reports that, while a proportion of the 400 plans submitted are good, many of them fall short of English and American standards of good planning. Either an elaborate academic plan has been evolved or the planner has confined his attention to such details as the straightening out of streets, often destroying the personality and charm of the town by so doing. Where the town engineer or surveyor has prepared the plans they are often lacking in breadth of view and appreciation of the economic and social prospects of the community. Many of the best planners have been occupied with the big Town Planning competition for Paris.

A number of villages have voted to rebuild on entirely new sites, either because the former sites had been taken by the Government for historical monuments or because of economic necessity, such as better railway facilities. In some cases the devastation has compelled the selection of new sites. One of the displaced towns, Pinon, has been chosen for the building of a modern town as an example in town planning re-construction. Much of the best educational work has been done by *La Renaissance des Cités*, which commenced operations about three years ago and has brought together a number of the leading specialists and authorities on the improvement of towns and cities.

TOWN PLANNING AND CONSERVATION OF LIFE

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The opinions expressed and statistics quoted by writers of articles and papers appearing herein are the opinions and statistics of the authors only.

THE COMMISSION OF CONSERVATION

The Commission of Conservation was created in 1909, by Act of Parliament, to promote the economic use of Canada's natural resources. Authentic information respecting the character and extent of such resources, and with reference to the problems associated with their efficient development and their conservation, is freely available on request to the Commission.

MUNICIPAL DEVELOPMENT IN CANADA

AN annual sum of \$15 per capita may be regarded as a reasonable estimate of expenditure for municipal purposes in cities and towns in Canada. With an urban population of 4,000,000, this would give a total of \$60,000,000 per annum. The control of this expenditure rests directly with the municipalities, but primarily with the provincial governments who are responsible for the legislation under which municipal administration is carried on.

Notwithstanding this huge expenditure, and the large part of it which is involved in financing a wasteful system of land development, there is no general and continuous survey of municipal conditions made in each province. Information regarding municipal government and finance is not available in a form suitable for comparative study, which indicates that no province really maintains an adequate system of enquiry into municipal questions. It is difficult for one city to benefit from the successful work or the mistakes of other communities unless comparisons can be made on the basis of accurate data. Under present

conditions it is beyond the power of any central organisation to obtain information from the municipalities in sufficiently large volume and of sufficient accuracy to provide a national or provincial comparison of conditions in different municipalities.

During the past three years an effort has been made by the Town Planning Branch of the Commission of Conservation to collect information from the principal cities in the country. The result brought out some interesting revelations, but it did not give the details in a form in which they could be compared with any advantage. The information either had to be used exactly as received, in which case it would be confusing and misleading, or it had to be studied and sifted and the general results presented in an abbreviated form.

In regard to several matters, any attempt to analyze and give an accurate statement of comparative conditions had to be abandoned.

A questionnaire which was sent to the principal cities and towns was studied and dissected by Mr. C. G. Moon, A.M.E.I.C.* It contained 34 main questions and about 150 sub-questions; 208 questionnaires were sent out, and 94, or 45.2 per cent, were answered.

From a study of the answers it is believed to be impracticable to gather certain kinds of information except by personal investigation.

LAND VALUES

An attempt was made to collect information from Canadian cities regarding the total value of land in the city, apart from improvements, in 1912 and 1915. The object of this question was to ascertain how land values had grown during the three years. The answers obtained from 94 cities were not comparative. Some cities gave the market values and the others the existing values, and in many cases the value of land and improvements was not separated. Nevertheless, the information collected was of interest and can be used as the basis for a more accurate statement to be prepared in the future.

Looking upon a city as a business undertaking, its values of raw or unimproved land should not grow more rapidly on the average than its population. Choice sites for business or residence will grow in value because of increased demand, but on the average the growth of value should not be greater than the growth of population and of expenditure on local improvements and public services. The cost of providing the public services, including education and means of transportation, grows with the city. As cities increase in size taxes increase both per capita and per dollar of assessed value to the point of offsetting any advantages which the land gains as a result of the growing population.

There should be a direct connection shown between the increase of population and the amounts expended on local improvements and between both of these things and the values of land. If the population grows more rapidly than the improvements it will mean as a rule that insanitary and other undesirable conditions are allowed to prevail. If the improvement values grow at a greater ratio than the population, unless to make up some past deficiency, it may mean wasteful expenditure and an excessive burden of taxation. Assessed values of land should increase in response to the combined effect of increased population and expenditure on improvements—rather than rise and fall with speculative value. To secure this result the only practical way is to base assessed values on the revenue producing values of property.

In many Canadian cities the land values have increased much more rapidly than population. From a study of the expenditure made in a number of cities between 1912 and 1915 it is clear that during that period

the land values increased to an extent out of all proportion to the expenditure on local improvements and public works. In one city the assessed land values increased in four years by \$47,088,000, whereas the total amount spent on local improvements and public works was less than \$12,000,000.

Some cities, like Regina and New Westminster, showed an almost exact correspondence between their increase in land values and their expenditures on improvements. The most prevalent condition in recent years appears to have been that the land values have grown from three to four times more rapidly than the expenditure justified. Of course, it has to be recognised that expenditures on local improvements may create a justifiable increase in land values to the extent of two or three times more than the actual cost of the improvements. On the whole, however, considering that improvements have usually to be constructed in advance of development, and sometimes without creating more than a small percentage of revenue from land actually in use, in the improved condition, a healthy position for a city is to have its assessed land values grow in proportion to its capital expenditure for improvements. Every city has an opportunity of judging whether it is assessing its land on an economic basis if it keeps the assessed values from increasing more rapidly than is justifiable by its increased population in the first place and by its expenditure on improvements in the second place.

A further check is to be found in the increase of capital invested in building.

Canada needs more population but has a surplus of land. Excessive land values may keep population away. Land speculation has caused land values to increase, in many cities, in greater ratio than population. In the six largest cities the increase of population between 1911 and 1915 was 26 per cent, whereas land values increased by 38 per cent. In the next group, having from 31,064 to 46,619 population, the increase of population was 32 per cent, while land values grew by 21 per cent—a more satisfactory condition. The worst condition was found in the small cities, having between 5,000 and 10,000 population, the increase of population in these cases being 17 per cent as against 60 per cent increase in land values.

MARKET VALUES PER FOOT FRONT

It was desired to learn the comparative values of land in the different cities and to ascertain whether there was any relation between this value and the number of the population. There is no reason to suppose that the information was not reasonably accurate. It showed that values for business purposes grew proportionately with the population. In a city of 20,000 inhabitants the value per foot frontage for retail sites would be approximately \$500, but in cities 10 times that size the values were 10 times as much, namely, about \$5,000. On the other hand, residential values doubled as between the smaller and the larger city, without any substantial reason. Wages are usually no higher in the larger cities, while costs of transit are greater. The higher taxes in the larger cities are inevitable and the increased residential values should not exceed the amount necessary to meet the difference in taxes and greater cost of local improvements.

One interesting fact is that in a small city suburban land is only one-fifth of the value within the city, whereas in the bigger city it amounts to one-half. Then, again, suburban land in the large city has the same value as central land in the small city.

Such interesting points as the following may be noted. Taking the

largest cities in the country, we find that the following are the proportions between residential values and the retail business values per foot front:—

	Residential	Business
Vancouver.....	\$100	\$2,500
Winnipeg.....	50	5,000
Toronto.....	150	7,500
Montreal (average).....	300	4,000

These figures do not quite mean that residents in Winnipeg have so much advantage over the other cities in low prices, but that the tendency has been towards the building of individual homes with less concentrated development for residential purposes.

TAXATION

Information obtained regarding taxation revealed a great variety of methods. It was found that 10 cities levied taxes on land alone, 4 on improvements alone, 18 on the full value of land and improvements and 44 on part value of land and improvements. While the arrears of taxes in the western cities, that have levied taxes on land alone, are high in all cases, there are also one or two cities with heavy arrears which levy taxes on land and improvements.

A city that did not encourage land speculation, and that kept its expenditures on local improvements within proper limits, would not require to levy such high taxes that owners of property would be unable to pay them. Given an assessment based on the productive use of land, there is no reason why the equity in land should be destroyed and owners compelled to fall into arrears.

In a small town like Nanaimo, B. C., there appears to have been little speculation, for, although the city has single tax, the arrears are only \$4 per capita, which is a normal condition. Other cities that are normal are Ottawa and Halifax with \$3 per capita. St. John is in the best position of the larger cities, with \$1 per capita, and there is really no reason why every city should not be equally favourable. Montreal and Toronto, with \$8 and \$9, respectively, have excessive arrears, even more so than the western cities, when it is considered that both of these large eastern cities are old established and have more settled conditions. Toronto arrears of \$9 really represent a worse condition than the \$14 arrears in Vancouver, yet Vancouver has single tax and Toronto has not. Port Arthur, which taxes both land and improvements, has arrears of \$16 per capita, against Vancouver's \$14. In the cases of North Vancouver, with its \$23 arrears, and of Prince Rupert and Edmonton, where the arrears amount to about \$30 per capita, there must be reasons other than single tax to account for such a difference from other cities that have single tax. These reasons will be found in the indulgence in land speculation and in carrying out expensive local improvements in advance of what is needed and, in other words, in proceeding without a proper city plan.

It is precisely those cities which have suffered most from excessive subdivision and land speculation, whether they have single tax or not, that have the greatest arrears. An unfortunate feature is the steady growth of arrears, and of the futility of tax sales to solve the problem of providing revenues to the cities that have arrears.

SEWERS AND WATER SUPPLY

The information obtained from 94 cities showed a very advanced condition in regard to the percentage of buildings connected to sewers and provided with water supply. Progress in the last few years in

this respect has been enormous. As in regard to other matters, it is not, however, possible to obtain accurate information. In one of the largest cities in Canada there is no accurate map of the sewer system and no proper information to show what streets were served with sewers and watermains. Reliance has to be placed on the knowledge of old servants of the city as to the position of some of the underground services. That this can be said shows an almost unbelievable backwardness in applying the engineering sense and sound business principles to city development. The estimates given by cities have, therefore, to be in some cases mere guess work. These estimates show that the buildings in cities are connected to sewers in the following percentages:—

Large cities.....	90 to 100 per cent
Cities of less than 100,000 people.....	45 to 100 “
Cities of 2,000 to 20,000 people.....	20 to 100 “

The figures giving the percentage of buildings connected with the water system are approximately the same.

In comparing the costs of sewer and water systems in 44 cities it was found that the per capita cost of the sewer systems averaged \$34.88 and the per capita cost of those actually using the sewers averaged \$41.57. In the case of water supply the per capita cost of the total population is given as an average of \$42.24 and the per capita cost of those using the water as \$47.09. The highest costs are shown in those cities with the smallest densities of population. It is not usually realised that one of the main causes of high taxation is the cost of extending public services to thinly populated districts.

In two cities, having in the neighbourhood of 50,000 people, the cost of the sewer systems per capita of those using the sewers is given as \$139.32 in the one case and \$37.14 in the other. The city with the smaller cost per capita has 11.6 persons per acre as against 1.9 in the other city. In the same two cities the cost of water supply is also much greater where the smaller density of population exists. In the city with 1.9 density the cost is \$79.96 per capita as against \$33.33 in the more thickly populated city. This is not an isolated example, and it is one of the main factors in connection with the financial difficulties of western cities that have allowed themselves to be spread too widely over the territory. This scattered development is the result of the speculative system of land subdivision, already referred to as the primary cause of arrears of taxes.

The cost of the sewer system in the smaller cities varies from \$1 to \$87 per capita. The figures, to be of value, would have to be accompanied by accurate data as to mileage of sewers, methods of sewage disposal and sanitary conditions. The water supply cost from \$12 per capita to as high as \$94 per capita. The information collected in respect of these matters is of special value in showing the necessity for proper investigation of comparative details of cost of sanitary works in different cities.

BUILDING INSPECTION

One of the most necessary things in Canadian cities is to have proper by-laws to control building construction. The by-laws for this purpose are inadequate without proper inspection by qualified men. Out of 94 cities it was found that 69 had building inspectors and 57 separate plumbing inspectors, while 25 cities, or 26 per cent of the total, reported not having inspectors.

HEIGHT OF BUILDINGS

The height of buildings permitted is highest in the west. In the large cities in the west it is 145 feet, and in the small cities, 125 feet. The extraordinary thing is that in a city like Prince Albert, which depends for its prosperity on spreading itself evenly over the land, permits a height of 125 feet. In the eastern cities the average maximum height is 130 feet, with 56 feet in the smaller cities. The general opinion favours the basing of the maximum height on the width of the fronting street, a sound principle but one that is usually disregarded under the pressure of individuals.

WIDTH AND CONSTRUCTION OF STREETS

The provincial laws in Canada generally require 66 feet as the width of streets. This is so in British Columbia, Alberta, Saskatchewan, Ontario and Quebec. In the Maritime Provinces it is not quite clear whether the law required 66 feet in New Brunswick, but apparently 50 feet is the statutory width required in Nova Scotia, and 40 feet in Prince Edward Island. Some cities have bylaws permitting a narrower width than that allowed under the provincial law, but these could not be enforced unless with the consent of the province.

There are great differences between cities in regard to the extent to which permanent pavements have been constructed. In some cities the need for permanent road surfaces is greater than in others because of the character of the soil. One city in Ontario has 25 miles of paved streets per 10,000 people, while another of the same size has four miles. Another has 96 miles of permanent sidewalks per 10,000 people while another has eight miles.

FORMS OF GOVERNMENT

In 93 cities from which information was obtained 92 elected their mayor at large and one was appointed by the council. Out of 89 cities there were 21 in which salaries were paid and 68 in which there was no remuneration. In three cities there was commission government with managers and in 11 commissions without managers. The ward system prevailed in 40 cities, of which 6 had boards of control. In 34 cities aldermen were elected by the people at large.

INDUSTRIAL DEVELOPMENT

Interesting information was collected with regard to the character and distribution of industries in cities. This will be the subject of a second article in the next issue of *Town Planning and Conservation of Life*.

CITY PLANNING COMMISSIONS IN THE UNITED STATES

The United States National Conference on City Planning has a record of 148 city planning commissions actually at work. The Conference has just published a pamphlet entitled "Municipal Accomplishment in City Planning and Published City Plan Reports in the United States."

A CONTRAST IN CITY PLANNING

SHOWING THE ECONOMIC AND SOCIAL ADVANTAGES OF MODERN TOWN PLANNING

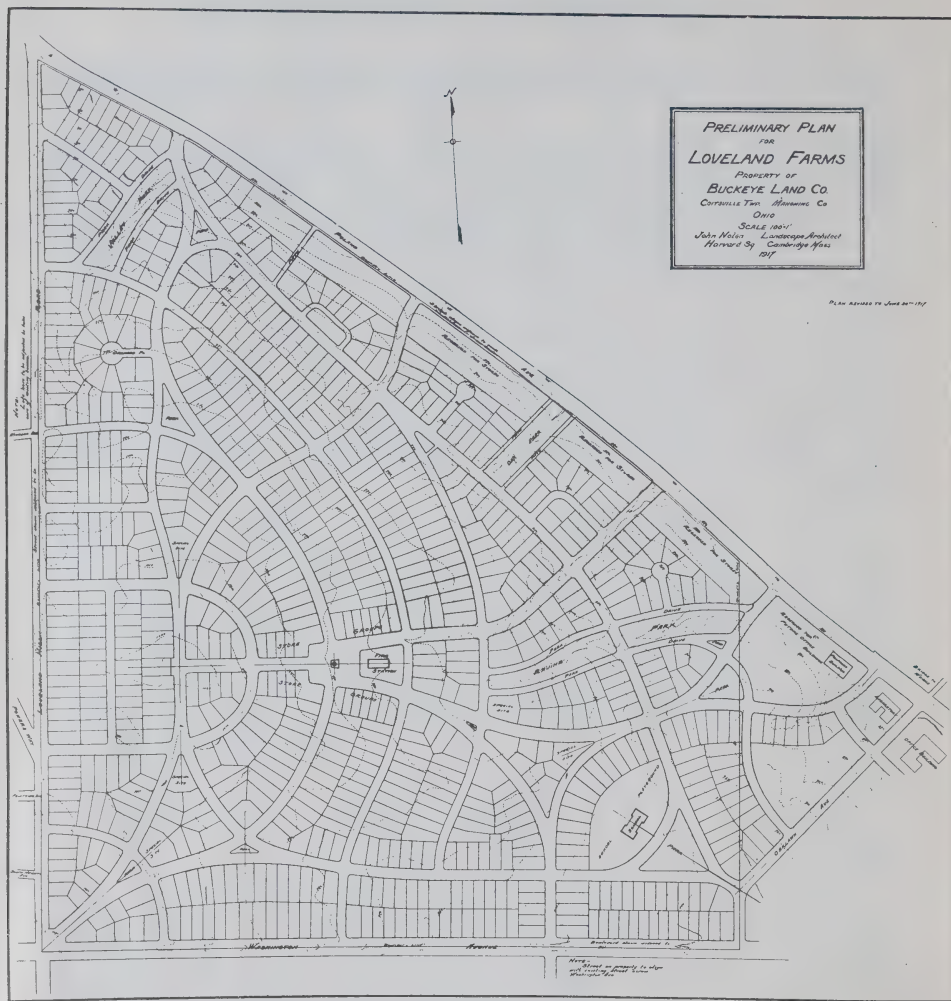
THE early settlers in Western Canada evidently intended that the evils of narrow, crooked streets and overcrowding of population to which many of them had been accustomed in the older countries, should not prevail in the new land which they had set out to develop. This seems to have been specially the case in mining districts, as mining towns like Lethbridge, Nelson and Ladysmith have exceptionally wide streets, so that very nearly half of the entire area is community-owned. Unfortunately, in most instances the topography of the ground or the nature of the soil was not considered, and the problem of street construction and maintenance resulting from ill-considered plans and excessive area of streets is to-day a very serious one, whilst the problem of over-crowding has been only partially met. The population is far too scattered in some sections and unduly crowded in others.

When a town has excessive street area in proportion to building area, several consequences may result. The most usual one is that street construction is temporary and makeshift, resulting in dirty, dusty roadways and dangerous ditches and sidewalks. If, on the other hand, the citizens are determined to have improved roadways with cement sidewalks, and surface or combined drainage, a burden of taxation may result out of all proportion to the value of the property benefited. In some cities this heavy taxation for street improvements has made it impossible for owners of vacant property to retain their holdings, and the property has been allowed to go to tax sale, with the consequence that the holders of improved property have to carry an increased burden, and educational and social programmes essential to the upbuilding of true citizenship have been crippled because of excessive taxation for what are generally termed "local improvements."

Excessive street area also adds to the cost of building land. If 20 per cent of the total area of land in a subdivision is devoted to streets, 25 per cent must be added to the original price of the land to make up for the loss of land not saleable. With 25 per cent in street area, 33 per cent must be added; with 33 per cent, 50 per cent has to be added; and with 40 per cent in street area 66 per cent. It is thus quite common to find subdivisions with very wide streets having very narrow frontage lots resulting in lateral overcrowding, which far outweighs any advantage that may result through the separation of buildings by the wide streets.

Another evil often results. To offset the high cost of land and street construction, the character of the building suffers, rooms being cramped or the sanitary essentials of a true home sacrificed. It is not uncommon in such cases to find that more has been spent on the land and its development than on the buildings which are placed on the land.

The modern city planner endeavours to avoid these errors. With entirely new development the problem is simpler, though even yet a serious handicap is often presented by legislation which prescribes a standard street width regardless of the use or function of the respective roads. But the city planner who has to face the problem of endeavouring to correct the errors of the past has a far harder task, and his difficulties are increased by the lack of education and want of understanding of the



problem by the average citizen, who still thinks that wide streets are the hall mark of proper city planning.

By the courtesy of Mr. John Nolen, Landscape Architect, of Cambridge, Mass., who is responsible for the design, and Messrs. Morris Knowles, Inc., Engineers, of Pittsburgh, Pa., who are in charge of the construction work, the writer is enabled to present a plan and particulars of a development planned for an industrial community near Youngstown, Ohio. In comparison with it a plan is presented of the city of Ladysmith, on Vancouver island, B.C., a mining community. Whilst they are alike in being industrial communities, they have also the same total area, and thus are directly comparable.

The Loveland Farm development at Youngstown is an effort of modern city planners to make a plan to fit the site, to design street widths suitable for the use and function of the street, to reserve natural beauty spots for park purposes, to centralise business in a suitable location, and, by enforcing building lines and building restrictions, to ensure that all buildings are properly placed on the land, so that every

property owner is assured of adequate light and air and a reasonable safeguard against the spread of fire.

The plan of Ladysmith, on the other hand, is the usual type of rectangular street development so common in the prairie sections of Western Canada, but in this case the defects of the plan are greatly intensified because it is superimposed upon a very hilly site. The axis would seem to have been determined by the railway right-of-way, which forms the northern boundary of the city, and it is interesting to note that had it followed the cardinal points of the compass, as is so usual, better street grades would have been secured.

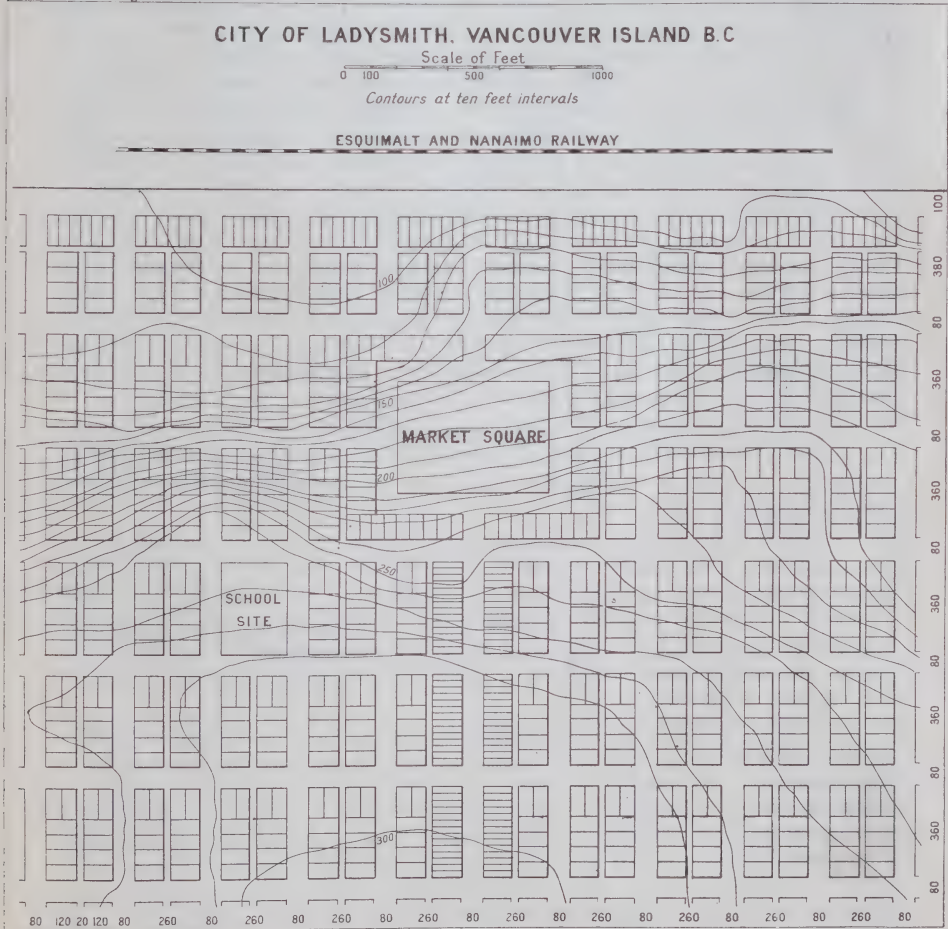
Ladysmith (220 acres)—

Building area.....	114½ acres,	52 per cent of total
Park area.....	6 “	2¾ “
Street area.....	99½ “	45¼ “

Youngstown (220 acres)—

Building area.....	156 acres,	71 per cent of total
Park area.....	11 “	5 “
Street area.....	53 “	24 “

Commission of Conservation
(Town Planning Branch)



The above statement shows the utilisation of the land in the respective areas, and it shows how great is the advantage of economy in street area of the Youngstown development, and also that more land is available for communal enjoyment.

The comparison is perhaps more striking if put in another way. Assuming that street costs are equally apportioned amongst lot owners in proportion to the area of the lot, and taking the standard lot of 800 square yards, as in Ladysmith, the lot owner in that city would be responsible for 693 square yards of street whilst the owner of a similar lot in Youngstown would be responsible for 271 square yards only.

At Youngstown, in addition to the saving of street area, by planning the streets to fit the site, economy in grading and in drainage and general construction is assured, whereas in Ladysmith, topography not having been considered, the street grades are excessive, running as high as 23 per cent, and street construction of all kinds is correspondingly expensive.

The difference in the two plans is also very strikingly shown in what are intended to be the business centres of the respective communities. In Youngstown the business square and the community centre are on a high level plateau, made accessible from all directions by streets of easy grade. In Ladysmith the so called "market square" is useless both as a business and recreational centre, the grade of the centre line on the short axis being 14 per cent, whilst the street that leads to it from the railway station has an average grade of 7 per cent. As an actual fact the square is not used for business and is never likely to be. A high school has been built in one corner, but the excessive grade prohibits the formation of a campus or playing field. It is not necessary to point out other defects in the plan, such as the rear of property facing the square on two sides, with frontage property on the other two, or the subdivision of the corner lots, which makes the most valuable corner inaccessible to the lane. The subdivision of large lots into small ones on the central street is of course a modification of the original plan, but is witness to the fact, already stated, that excessive street area tends to force the creation of narrow frontage lots. As there are no building-line restrictions the tendency throughout has been the usual one of building as close to the frontage line as possible, so that in spite of the wide streets the general effect is one of overcrowding.

Ladysmith was planned over a quarter of a century ago, and though the defects of the plan seem so obvious, similar plans are still being produced in British Columbia, which is without any effective town planning legislation.

Unfortunately, city planners in the boom days were inveigled into the production of many ambitious plans for civic centres, boulevard systems and parkways, without due regard to the general city plan, and the public still regard city planning as an artistic fad. Education is needed to show that true city planning is a scientific and economic study, absolutely essential to true industrial progress, economic welfare and human happiness.

The burden of municipal taxation cannot be reduced if the fundamental principles on which the city is planned are themselves economically unsound. No hotel or office building could be self sustaining, let alone revenue producing, if one-half of the floor area were devoted to passageways and lobbies. No manufacturer could successfully conduct a business if all his machinery were only working to half its capacity, with an empty floor or an empty room between each department. To secure economical municipal administration we must eliminate waste street area, save on street construction by a properly worked out plan

of street development, and also learn how to control building development, so that our public utilities, corresponding to the machinery of the manufacturer, are more efficiently utilized. The spacing of population must be more carefully studied, with the endeavour to avoid the overcrowding in the centre of our communities and the undue dispersion in the suburbs.

All over the country the cry of extravagant municipal expenditure is heard. Everywhere taxpayers are endeavouring to shift municipal burdens onto the administrators of Provincial or Dominion governments, only to find that if the load comes off one shoulder it goes onto the other. If more attention were paid to such causes of high taxation as the want of proper city planning, the avoidable waste by lack of control in the development of land, and in faulty building regulations leading to excessive fire losses and the lowering of the vitality of the people, we might then effect a gradual reduction in taxation, or, if that is not possible, at least secure greater value for the money that we spend.—*A. G. Dalzell.*

WHY ZONING OF CITIES MAKES FOR ECONOMY

IN a paper by Mr. E. S. Rankin, Engineer-in-charge, Bureau of Sewers, Newark, N. J., read before the American Society for Municipal Improvements, some important consequences are noted as the penalties of the absence of zoning laws in cities. Zoning laws have for their object the classification of land in cities, as to use of area of lot occupied by, and as to the height of, buildings. A proper zoning law is part of a town-planning scheme. Zoning is now being carried out in scores of American cities, with the chief object of stabilizing real estate values. Mr. Rankin shows its effects in securing economy in municipal engineering.

Accepting the position that zoning, or the absence of zoning, does materially affect property values and public health, Mr. Rankin shows that in a city where a stringent zoning ordinance is in force the element of chance in the engineer's work is largely eliminated and decided economies are effected in the lay-out of streets, in pavement, sewers and water supply, because, with the assurance that a given section of the city will be occupied by certain classes of building, the engineer can much more intelligently design the public works necessary to serve properly that section.

Where there is no zoning law the following disadvantages arise:—

1. In the lay-out of streets for residences excessive widths have to be allowed, on the mere possibility that a transportation line will bring intense development.

2. The difficulty of making permanent allowance for parks and playgrounds under such uncertain conditions.

3. The difficulty of deciding on the kind of pavement that will be required, whether durability and strength for heavy traffic or smoothness and quiet, suitable for a residence district.

4. Difficulties in regard to sewer design, and the impossibility of judging whether communications should be laid to the curbs for regular lots or for apartment houses or manufacturing or what depths the sewers should be. In this important matter, it is pointed out, if the permissible height of buildings is known, and the maximum number of families allowed to the acre, then the necessary size of the sewer can be accurately determined.

"The necessary size of a sanitary sewer, omitting the factor of grade,

being governed entirely by the number of people served, can be determined very accurately if we know the permissible height of buildings and the proportion of buildings to lot area, and particularly when—as is the case with the Newark ordinance—the maximum number of families allowed per acre is specified.

“In estimating the required size for combined and storm sewers by the so-called national method, the uncertain but important factor of impervious area becomes a known quantity. As is well known, this factor may vary from 100 per cent for entirely built-up areas down to 30 per cent or even less in suburban districts.

“Without definite restrictions it is necessary to estimate the possible maximum length, depth and size for all parts of a city alike, but with a zoning ordinance in effect, each section can be treated separately and sewers built to properly sewer such section alone. Mr. W. W. Horner, in his report of the City Plan Commission of St. Louis for 1919, estimates that from 10 to 15 per cent of the cost of the St. Louis sewers could have been saved, had a definite plan for the development of the areas been adopted when the system was designed.

“With the exception of the factor of depth, similar remarks would apply to the water-distribution system.”

It would appear, Mr. Rankin concludes, that the municipal engineer should be one of the foremost advocates of the zoning of cities. But so should the city treasurer, who is interested in protecting the city finances, and the mayor and aldermen, who are anxious to save the taxpayers from costly waste. So also should the owners of property who indirectly pay large tribute to the waste and inefficiency due to letting cities grow up without plan or classification of use, density and height of buildings.

BAD HOUSING CONDITIONS

PRIVATE AND PUBLIC RESPONSIBILITY IN CANADA

THE bad conditions in a house, for which the occupant (owner or tenant) is primarily responsible, and which are difficult to regulate by by-law, are:—

1. Overcrowding of rooms
2. Lack of cleanliness
3. Want of proper maintenance of structure, drains, etc.

For the cure of the first and second of these evils we must depend largely on the education of the individual, but even here there is also public responsibility. Some inspection by the local authority should be undertaken to prevent injurious overcrowding or uncleanness. The local authority should also see that owners keep dwellings in tenable repair. But when we say, as most of us have at one time or other been tempted to say, that the housing question is a matter of reform of the individual and not one that can be dealt with by public regulation, we need to remind ourselves that, so far as this is true, it is mainly in the above three respects that it is so. In other more important respects bad housing is not the result of defects of persons but of municipal administration.

What, for instance, are the bad conditions in a house for which the municipality is responsible?

These have been shown in housing investigations made in Canadian cities to be:—

1. Excessive cost of site, as a result of unregulated speculation using up capital that should be put into the improvements.

2. Permitting buildings to be erected on damp sites, without being drained, and on land containing vegetable matter and garbage, without requiring concrete foundations.

3. Permitting dwellings to be erected and occupied without adequate air space within and surrounding them; of unsound and unsafe construction; and without adequate means of ventilation, proper drainage and sanitation, and a supply of pure water.

4. Permitting buildings to be converted into tenements or "rooming" houses without proper sanitary conveniences and safeguards from fire.

5. Permitting houses to be used for "rooming" or public lodging houses without registration and frequent inspection.

6. Permitting the continuance of such abominations as privies; failing to construct sewers and provide a water supply to all houses; failing to pave streets and to require the paving of yards round houses.

7. Failing to construct and maintain all drain connections between the dwellings and the lateral sewers, charging for the cost of same against the property instead of leaving such construction and maintenance to the owner.

8. Permitting houses to be erected without having plans and specifications first approved by the building inspector in accordance with proper building regulations.

It is in respect of these eight matters that the small dwellings in most Canadian cities are chiefly defective. They are all matters which the individual cannot control. The education of the owner or tenant cannot remove their powerlessness to deal with them as individuals. *In the face of this fact and of what we see around us in our cities it is evident that our housing problem is mainly one of municipal rather than of individual neglect.*

There are, of course, cases of overcrowding of rooms and lack of cleanliness, but not so numerous as we might expect having regard to the neglect of public authorities to give facilities for healthy and clean conditions.

Here are a few examples. In one district in an eastern Canadian city, which has been built up mainly since 1900, 319 houses were visited in 1915-16; 43 per cent of the residents were English-speaking Canadians, 34 French-speaking Canadians, and the remainder, 23, were of mixed nationalities. No instance of overcrowding was found, and no uncleanness was reported, but there were a number of dark rooms; some closets were partitioned off in corners of bedrooms; one hotel which had lost its license had one bath tub for six families; the cellars were generally damp; there was no playground and hardly any yards, so that all children had to play in the street.

Another district, built up since 1900, had 238 dwellings, which, were visited and studied in 1916. This is a foreign quarter, and there was some serious overcrowding. In a one-room shack there were a husband, wife, five children and a boarder. There was a cot for the boarder, but the family of seven slept in one bed. This instance of overcrowding is one of the kind that require to be specially dealt with by inspection and individual reform, but such are not numerous and occur only among certain immigrants who should be made to conform to better habits. But this one-room shack had no sanitary conveniences and the water tap was in the yard. The city was therefore an accessory in regard to the worst features of that dwelling. In many instances where sanitary conveniences existed they were in corners of bedrooms—in many cases where lodgers were kept. At the time of the investigation an adjoining piece of land was used as a dumping ground for garbage. It was impossible to open doors or windows facing the dump, which was a prolific place for breeding flies.

In another district, with a beautiful natural site, a study was made of 82 dwellings. What were the defects. Nearly all matters of public neglect. Only 9 per cent had bath tubs, and only 29 per cent sanitary conveniences in the dwellings. In two dwellings there was no water supply. Five families had to depend on a tap outside. Thirty-four had a tap but no sink. Most of the waste was disposed of on the streets and yards. There was one basement dwelling with two rooms. It had stone walls and wooden floors. The front room served as a kitchen, dining-room and living-room, and was lit by two tiny round windows under the verandah. The back room was the bedroom and had no window.

One building in a more central area of a city had been converted into an apartment house and there was only one bath and toilet for three families. In one wooden row that had no foundation the sanitary conveniences were installed by partitioning off the parts of bedrooms, with windows opening into the bedrooms. One wooden row, with sagging roof, was in bad repair, with broken plaster on walls and ceilings; there were no bath tubs, sanitary arrangements were defective and there was no foundation. Four houses were rented for \$12.00, and the owner refused to do repairs.

CONDITIONS IN SUBURBS

Some of the worst conditions are, however, just outside the boundaries of cities where there are no sewers and no water supply. One suburban area has 5,000 population—mostly built up during the last few years, and a great portion of it on land which should never have been permitted to be used for building. Lots were sold some years ago for from \$150 up, more than ten times the agricultural value of the land. The district is now one of wells and privies. Many families keep pigs, which help to contaminate the wells. A large portion of the area which was visited was a cedar swamp, where water lies to a dept of a foot or more in spring. The streets are unpaved, and are covered with rank grass and weeds in summer. Garbage is now being dumped on that site to raise it to building level.

The residents are poor and some of them ignorant; but they are generally clean. The failure is not with them. They are the victims of a system that is beyond their control; but not beyond the control of the public authorities, if the land development were planned in advance under town planning regulations.

SIMILAR BAD CONDITIONS IN WESTERN CITIES

The above refers to conditions in an eastern city. During May and June last a housing survey was made of portions of a western city by the Medical Officer of Health. In one district there were 416 dwellings occupied by 4,141 persons on an area of 81.9 acres. This represented an average density of about fifty persons to the acre. The building construction was fairly good. *There was no overcrowding of rooms*, but no fewer than 122 houses had been improperly occupied as tenements by from two to eight families, and in none of them had any attempt been made to fit them for tenements. Rooms too dark for occupation numbered 140; 78 had no windows opening to the external air; there were 54 basement dwellings; 347 families had 84 closets or 1 to 4.1 families, but in some cases 8 families used one convenience.

Other districts investigated brought out similar facts. As a rule, the individual family is living up to the standard permitted by the

conditions and environment, created by those who develop the land under municipal guidance. Generally speaking, where bad conditions prevail they are due to lack of proper by-laws, or lack of administration where proper by-laws exist. Provincial and local authorities may regard the evils of bad housing with equanimity, but they cannot truthfully put the responsibility for these conditions on the shoulders of individual citizens.

FIRE PREVENTION

The question of properly controlling the construction and surroundings of buildings for purposes of sanitation is linked up with the question of similar control for purposes of prevention of fire. What creates good sanitary conditions and air space simultaneously provides the means of reducing fire risks.

One difficulty in getting houses properly built or improved is the idea that the people cannot afford to make them sanitary and safe. They do not, however, save any money by living in these bad conditions. In the end they lose. In addition, the public are losing a great deal in providing extra fire protection, in hospitals, and in other means that have to be employed to remedy the disease of the slums.

The position in parts of our Canadian cities is deplorable, less from the point of view of what has already happened than from the point of view of what is certain to happen in the future as the result of present neglect. The absence of control over building construction, the erection of buildings on lanes and rear lots, the permission to erect frame tenements, the absence of sewers and water supply directly connected with all houses, and other defects can be gradually put right at comparatively little cost.

It is in proportion to our ability to remedy these things that public responsibility is to be measured. In old cities the clearance of slum areas costs millions without any return. In most Canadian cities the problem is one of town planning, of raising standards of housing construction, and of requiring owners of buildings and real estate to fulfil their obligations to keep their property in wholesome condition.

THOMAS ADAMS.

NEED OF TOPOGRAPHICAL MAPS IN CANADA

BOTH the United States and Canada suffer very considerably from the absence of accurate maps, prepared by a central department, on a uniform scale and system. As a result of this work being left to local and private initiative probably as much money is spent, without satisfactory results, as would be needed to procure adequate and accurate maps under a proper system of organization. Where a city does its own mapping it cannot obtain good results. There seems to be no practical way in which maps can be prepared by the municipalities if successful results are to be obtained. All the cities in Canada would find it greatly to their advantage to have such maps, but anything that is now done towards preparing them is done in a sporadic and piece-meal way and no city in the country has a good topographical map.

In the United States a few cities, like Baltimore and Cincinnati, have had such maps prepared by their own engineering staffs, but in the nature of things this must have been at enormously greater cost than would have been necessary if the work had been done by a central authority under a trained organization.

In Britain the whole of the country is mapped under the Ordnance Survey Department, showing the details of all land in town and country in the same way as is shown on the accompanying map of Hereford. This plate is taken from the six-inch English map, but a larger and more accurate map is printed on a scale 25 inches to the mile. The development of the Ordnance Survey map of England has only been possible with a centralised staff. The work is of such a character that the same men have to apply themselves to it for a considerable period before they can obtain accurate and economical results.

The need for such a map is greater in Canada than in England, because of the new conditions and rapid developments within and surrounding the cities. Probably the chief difficulty in Canada would be due to the size of the area and the more scattered population. This might be regarded as making the comparison with England inappropriate, but it is not so, as the suggestion is that the mapping should only be done for populous areas which are comparable to Eng'land.

TYPICAL AREAS IN CANADA

For instance, the following are typical of the areas that urgently need topographical maps:—

- (1) Montreal island.
- (2) Toronto region, comprising the city and the surrounding towns and rural districts within 10 miles.
- (3) Niagara frontier region.
- (4) Windsor region, opposite Detroit, comprising seven urban and rural municipalities.

The above are some areas that provide the combination of town and country conditions obtaining in older countries like England, and it is for such districts that accurate topographical maps are most essential.

In connection with town planning, such maps are indispensable, but they are also needed for many other municipal purposes and for the use of citizens who own property. A large sum can be realized from the sale of such maps when they are available at reasonable cost for general use.

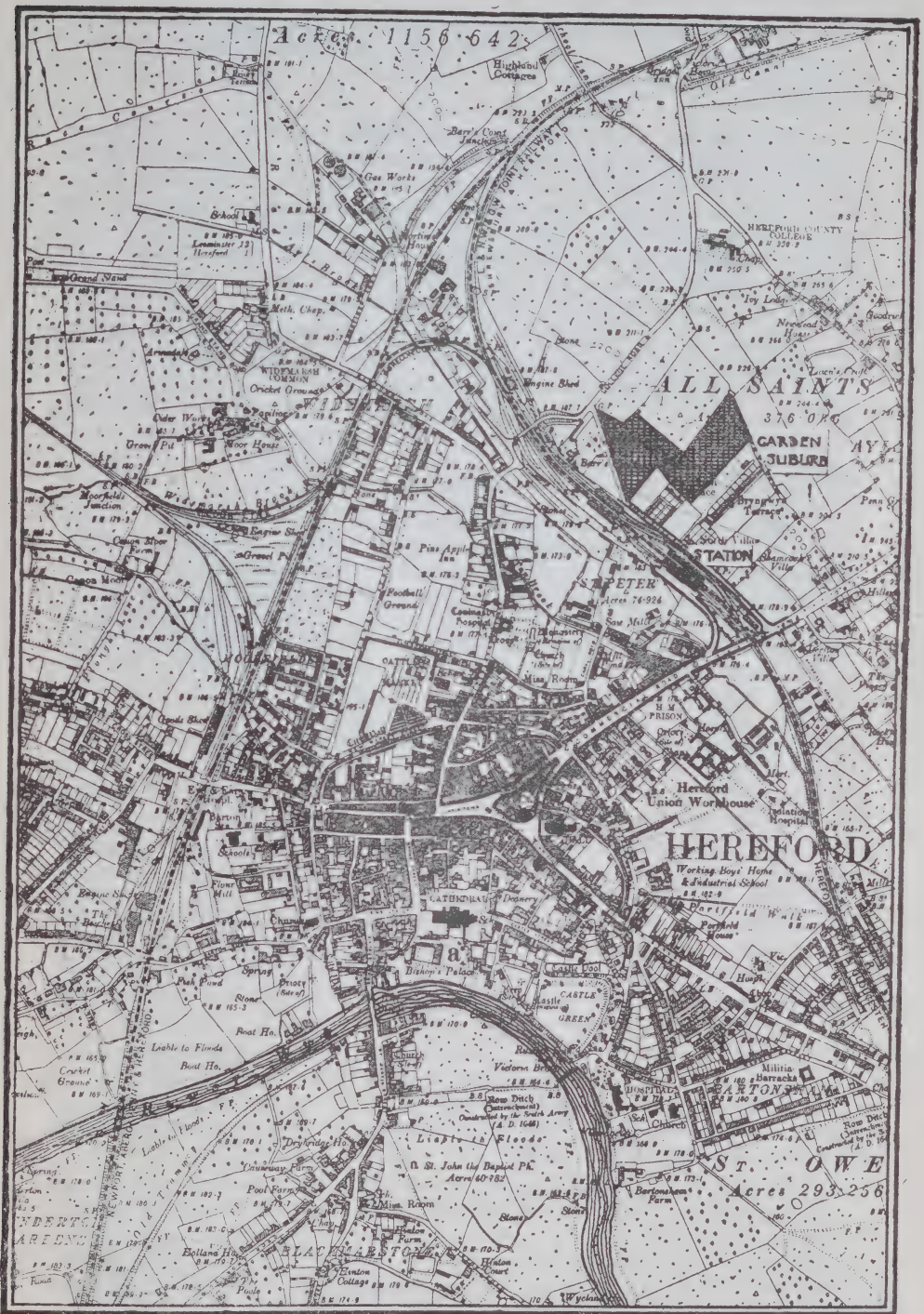
In cities like St. John and Ottawa thousands of dollars have been spent in getting surveys made for want of proper basic maps, and the final result is not satisfactory.

THE ORDNANCE SURVEY OF ENGLAND

England, which is the only country we can refer to as a guide because of its having had the experience in the preparation of such maps by the Ordnance Survey Department, does not find that the preparation of such maps carries with it any responsibility for doing anything other than preparing and publishing the maps. The British Government, as a national authority, conceive their duty to be to have an accurate map of the country, and they limit themselves to carrying out that duty. They do not even ask the cities to bear any portion of the cost. Prints of the maps are sold in book stores throughout the country, and before the war the price of each sheet was about 75 cents. A much larger price would be obtainable in Canada as the maps would have greater value.

SHOULD MAPPING BE DONE BY FEDERAL OR PROVINCIAL GOVERNMENTS?

It is unlikely that the waste of time and money that results from the absence of such maps throughout the country will be allowed to continue, and some effort is almost certain to be made in the near future



MAP OF THE CITY OF HEREFORD.

SHOWING THE INFLUENCE OF THE IRREGULAR DEVELOPMENT OF THE SURROUNDING RURAL DISTRICT ON THE METHOD OF GROWTH AND THE LINES OF COMMUNICATION OF THE CITY. THIS IRREGULAR DEVELOPMENT, BEING INFLUENCED TO A LARGE EXTENT BY TOPOGRAPHICAL CONSIDERATIONS, AFFORDS, IN MANY RESPECTS, A MORE RATIONAL BASIS FOR DEVELOPMENT THAN THE RECTANGULAR PLAN, WHICH IGNORES NATURAL CONDITIONS.

to get the Federal or Provincial Governments to prepare maps of the most populous areas. On the surface it appears more properly the duty of the Provincial Government, as it is the authority to deal with municipal affairs.

The mapping of these populous industrial regions, which comprise cities and the surrounding territory, is not, however, a municipal question. It is an advantage to get the city to co-operate and to bear part of the cost, but it is a national purpose that is to be served by getting the work done. A region like the Island of Montreal comprises both urban and rural municipalities, and its proper development is essential in the interests of Canada as a whole. The same is true in a special degree of the peninsula comprising the Vancouver region.

Because of the national importance of such areas, the Dominion Air Board is preparing to make aerial maps of a number of regions. The use of aerial maps will be very limited unless they are supplemented by a topographical map. If so supplemented we should have information regarding the developed parts of the country which would be of great assistance in connection with its future development, particularly in regard to the location of manufacturing industries.

There are certain agricultural areas, like Niagara peninsula, where similar mapping is also desirable. It would hardly be the duty of the Federal Government to do the mapping for cities alone or as a means of assisting cities. It has adequate reasons of its own, and purposes of a national character to achieve, to induce it to make maps of the most thickly populated parts of the country. By centralising the work in the Federal Government, instead of in the provinces, it will be possible to get a much higher standard of work and greater economy of administration. This is a class of work that cannot be over-centralised. It can be linked up with the surveying departments of the government and only take up the time that can be spared from other kinds of surveying work. A great deal of it can be done without extra cost because it would be part of the work that has to be done in any case.

It is not suggested, however, that although the work has a national purpose and value the cost should be entirely borne by the Federal Government. Some efforts should be made to get the Provincial Governments to contribute a share of the cost, and if the value of the work were made clear to them they would be unlikely to refuse. Where a city wishes to have a map it could be asked to contribute in services to the equivalent of three parts of the cost, leaving only one-quarter to be borne by the government.

If an opportunity can be obtained for the Federal Government to gradually build up a topographical map of the most settled parts of the country, under an arrangement by which the local municipalities contribute anything like 50 or 75 per cent of the cost, it would be greatly to the advantage of the country.

From a town planning point of view, that is from the point of view of getting land economically developed, such maps will be most valuable. For innumerable purposes connected with the building up of the industries of the country, the safety of property and the economical systems of drainage and highway development, these maps are essential and would be an excellent investment for the country.—*Thomas Adams.*

HOUSING AS PUBLIC UTILITY

"The Philadelphia Chapter of the American Institute of Architects, a body to which no taint of radicalism has ever attached, has lately declared that houses for those who earn low wages can no longer be built anywhere in the world at a cost which will permit them to be either sold or rented without loss, and that it is unquestionably true that an industrial system, or even any particular industry, which fails to make possible adequate shelter, food, clothing and recreation for all of its operatives is unworthy to exist. The Chapter proposes that housing for those earning low wages or salaries be legalized as a public utility; that the manufacture of this class of homes as a profitable industry should cease in theory as it has already ceased in fact; and that the Government, national and local, should at once adopt measures making possible the supply of this prime necessity of life."—*Canadian Engineer*.

Of the 325 British local authorities who are under compulsion to prepare adequate town planning schemes by 1927, 146 have signified their intention of taking immediate action. There is little doubt that during the next six years Great Britain will have a national town planning programme in operation that will profoundly affect the growth of towns and cities, and, by regulating the density of population, will make the further development of slum conditions impossible. "In town planning," says Professor Adshead, "lies the basis of all social reform."

HOUSING PROGRESS AT ST. LAMBERT, P.Q.

MR. E. Drinkwater, Engineer and Housing Director for St. Lambert, Quebec, reports that the local housing scheme, under the federal and provincial housing acts, is working satisfactorily, and that considerable progress is being made. He is of opinion that the \$200,000 allocated to the town will not be nearly sufficient to meet all the applications for the loans, and is convinced that his council could profitably use five times the amount granted.

The Order in Council for the loan was passed September 13, 1920, and a draft of the first contract—to a housing company—was approved by the Provincial Director of Housing on October 1. Building was commenced at once and a number of houses have been completed, with others in different stages of construction.

The dwellings are being erected under two principles. On the one hand a housing company is operating under the Quebec Act of 1914, "to assist in the construction of dwellings," and is receiving, under the federal grant, 85 per cent of the cost of houses with a maximum cost each of \$4,000 and \$4,500 in accordance with the federal act.

The contract with this company permits it to dispose of houses to purchasers who must be acceptable to the town council. The company is limited to a six per cent profit under the Act of 1914, and, before it can dispose of the houses, conditions of sale and price have to be approved by the town council and the Lieutenant-Governor in Council. The sum allocated to the company is \$100,000. Eight dwellings have been completed at the time of writing, both detached and pairs of cottages,

of six rooms with bathroom and full basement area and with exterior walls finished in stucco. With the remainder of the grant the municipality is lending money to individuals who own lots, and there is every prospect that the loan will soon be exhausted. Another company is prepared to take up an additional \$100,000 if the town can secure an increase of the grant. The entire amount of the loan will be expended on the dwellings, the municipal council providing for local improvements in the usual way.

Like most towns St. Lambert has many vacant building lots already supplied with local improvements and transportation facilities, and the local director is not at present advising town planning schemes until these vacant properties are built upon. He is of opinion that five times the amount of the grant available could be well spent in supplying the lot owners with the necessary capital for building operations and he is not aware of any obstacle to taking advantage of the loan. He is of opinion that if the town of St. Lambert received the larger amount a building scheme might be developed that would considerably reduce costs, since the small contractor is often unable to purchase material at the best market prices.

As the federal housing project has received some criticism in Quebec, it is interesting to hear that one local director of housing is convinced of its utility and practicability and is only hampered by the limitations of the amount of grant received.

SANITARY ENGINEERS ON BOARDS OF HEALTH

MR. E. G. SHEIBLEY, Consulting Sanitary Engineer, Los Angeles, Calif., writing in the *American City*, suggests that more engineers should be engaged in public health work, as members of health boards and as commissioners of health. It is claimed that the sanitary engineer, because of his training and experience, is the logical executive for public health work. While the laws generally permit only practising physicians to hold the office of city or county health officer, in older countries it is the sanitary engineer who performs the executive duties. Generally, however, in all countries the sanitary engineer acts as deputy health officer, and as such may do the greater part of the actual work, but must be subordinate to the doctor of medicine who holds the office. Should not the sanitary engineer be placed in a position of equality with the medical officer and only highly qualified men selected for the duties.

Mr. Sheibley goes so far as to suggest the advisability of naming an engineer as health officer, with a doctor of medicine retained in the position of an assistant or consultant. This, however, is going too far in the other direction. In support of the suggestion Mr. Sheibley says:

"The duties of a health officer may be divided into three classes of work—medical, executive and administrative (business), and engineering. Perhaps ten per cent of the duties of a health officer require medical training, and of course no one would trust the judgment of any non-medical man in such problems as the diagnosis of disease and the prescription of treatment or medicine. As contrasted with this limited number of purely medical functions, probably fifty per cent of the health officer's duties demand an engineering knowledge and experience; while as a rule the general executive and administrative training of the engineer is superior to that of the practising physician in practically every instance.

"On every health board, state and city, the engineer and the doctor should have equal representation. The doctor of medicine is primarily interested in the cure of constitutional disease; the sanitary engineer is primarily interested in the removal of those environmental causes which are responsible for about one-half of the diseases of common occurrence. It is no reflection on the medical profession that only a few practising physicians know the relative advantages of an activated-sludge plant and an imhoff tank; while such questions, of concern to the community and its health officer, are part of the elementary knowledge of the sanitary engineer."

Whatever may be the view regarding this matter it is certainly important that more responsibility should be placed on the shoulders of the sanitary engineer and an improved status given to the profession. Plumbing, garbage and refuse disposal, water-supply, sewerage and sewage treatment are problems primarily in sanitary engineering, and require constructive engineering capacity to deal with them.

The encouragement of the sanitary engineer by enlarging his functions and putting him in direct charge of the correction of defective sanitation, is necessary to secure the improvement of sanitary conditions. He should be the official responsible for a great deal of the preventive work that is needed so as to overcome the growth of evils that are so difficult and costly to remedy. Most of the defects in housing in Canada are due to neglect of control of sanitation. Sanitary inspectors are too often chosen without regard to their fitness as engineers. If we are to have a better trained profession in sanitary engineering we must give more scope for the men who enter it and the higher standards of pay and responsibility that will attract skilled men. This is no reflection on the important part played by the medical profession in municipal work but a suggestion that their work should be supplemented by engineers having a special training and knowledge in sanitary work. Certainly the present system of control of sanitation is not satisfactory, and the time is opportune for considering whether greater responsibilities and improved status should be given to engineers on provincial and local boards of health.—THOMAS ADAMS.

CANADA'S FRONTIER WORKERS

MOST Canadians delight in quoting statistics as to the rich resources of the Dominion in farm and forest, fishery and mine, but this boasting self-complacency disappears before a thoughtful study of the practical problems of converting these national assets into actual wealth. This task is now an urgent necessity owing to the pressure of public indebtedness consequent upon the war. It will require the careful direction by experienced far-sighted men of a generous investment of labour and capital in order that the best results may be attained.

Who are the workers who hew our forests, build our railroads and work our mines, extending the bounds of our community life, and by their productive labour increase our public revenue? In all there are about 250,000 men living in camp bunk houses doing this work. Because native Canadians are none too numerous for the usual industries, much of this pioneer work has been done by immigrants. Some of these immigrants have been of British or American birth, and because they knew our language and were accustomed to British ideals of society and government their entrance into our country made no new social problem.

Of the non-English-speaking immigrants, the Scandinavians have been among the most numerous, if under this general name we include

40,000 Swedes, 25,000 Norwegians, 7,000 Danes and 5,000 Icelanders who have come to Canada in the last twenty years. These are literate peoples and compare well in this respect with the native-born Canadians among whom they work. They come from out-of-door occupations and are experts in the heavy work of mines and camps.

Another northern country that has sent forth many of its sons to Canada is Finland. Escaping from the iron hand of Russia, they are inclined to express their love of independence by an extreme socialism which tends to develop into bitter hostility to all existing institutions, political and religious. This radicalism may disappear under the influence of closer contact with native Canadians, when the barrier of language is broken down.

Of 17,000 Italians who came to Canada in 1913, more than 13,000 were unskilled labourers. Professor Smith of Toronto University says in *A Study in Canadian Immigration*:

"With remarkable endurance and no little skill, the Italians have done much of the pioneer work of the western world. The inability to speak English has compelled them to keep together in gangs, where they can be directed by an Italian foreman. The same lack of knowledge of English forces them in cities to establish colonies of their own people, with the retention of the language, customs and traditions of Italy. This manifestly retards the Canadianization of the family."

Space does not permit us to consider the other nationalities who have contributed their quota of labour in developing our national resources. Divers are the languages and customs of these men who are finding their first employment here in our frontier lumber, mining and railroad construction camps. The first step towards imbuing these new Canadians with our national ideals is to teach them our common language. This is no small task in the case of an adult workman, often illiterate in his own country, but it is most important that at the time of his first contact with our industrial civilization he should receive wholesome views on economic and social questions, in order to be able to stand against the perverted teaching of agitators.

The only organised effort to do this important work is the Frontier College. During the twenty years of its existence 600 university men have engaged in this work of transforming the foreigner into a Canadian citizen, working with their hands at the labourer's task during the day while acting as teachers during the evenings, on rainy days and holidays. This unique educational experiment, so effectively carried on by methods and text-books specially adapted to this peculiar task, has its headquarters at 67 Yonge St., Toronto, but its class-rooms are in tents, box-cars or shacks at 100 different places in the backwoods of all the provinces. The instructor has men of all nationalities in his classes, and finds them for the most part eager to learn, as he aims to help them to develop into the kind of sane industrious workmen Canada, as a young country, so urgently needs.—ETHEL D. CRAW.

BUILDING GUILDS

FOR ten years or more a group of English writers have been preaching the virtues of Guild industry. The term indicates a society of craftsmen who believe they can serve the public better and can obtain better and more stable working conditions for themselves as a labour democracy than in subjection to what they consider the autocracy of capital. When the housing shortage in England had become a national calamity and the Government

were faced with a programme of 800,000 houses—which it was admitted could not be built on economic terms with the cost of building multiplied four times in comparison with pre-war prices—these writers approached the Building Trades Union and said: “Why should not you take on this work as Builders’ Guilds? You possess the most important element in the solution of the problem, a monopoly of labour. Why not offer this to the local authorities, who are under national obligations to provide houses, and are almost in despair at the enormous increment in the cost of building?”

The suggestion was adopted first in Manchester, then in other cities in the north of England, later in London and Wales, and now in a number of centres the building guilds are at work. As soon as the reasonableness and the practicability of the scheme had been demonstrated the municipal housing commissions agreed to the proposals of the workmen, the Ministry of Health endorsed the movement, the Wholesale Co-operative Society—the largest manufacturer of building materials in the United Kingdom aside from the Government—offered its aid in the supply of materials and agreed to insure the municipalities against loss.

Organized public service and not profit-making is the watchword of the Guild. Its surplus earnings will, under no circumstances, be distributed as dividends, but will be used for the improvement of the service, the provision of increased equipment for technical training, the elimination of hired capital, the abolition of unemployment and the promotion of a contented industry.

In Canada there is evidence of the consciousness of the movement, but no practical steps seem yet to have been taken. Mr. J. A. Ellis, Housing Director of the Ontario Government, has recommended it as a way out of the housing deadlock in Toronto. He has suggested that the Housing Commission should provide plans, secure materials and arrange the financing of a housing scheme, but that the actual building should be managed and executed by a building guild. Mr. J. T. Gunn, business agent of the Electrical Workers Union, presented a similar scheme to the Building Trades Council of Toronto, which was placed before the city council, but nothing further seems to have been done. It was estimated that a saving of \$800 per house would be effected by the elimination of the surplus cost that is incident to the ordinary system of building for profit.—A. BUCKLEY.

COURSE IN ESTATE MANAGEMENT

An important step in the recognition of town planning and estate management as among the applied sciences has been taken in England. A college of estate management has been founded with the object not only of training students in attendance in the science of estate development, but of extending knowledge also to practitioners by means of correspondence courses.

The college will prepare students also for entrance to the Surveyors’ Institution and will enable them to qualify for the B. Sc. degree in estate management recently instituted by the London University. This degree is an external one and may be taken by students in any part of the British Empire. The syllabus covers land surveying, the valuation of land and buildings, the principles of taxation and the construction of buildings, agricultural law and forestry for those who intend to practice in the country, and town planning, urban sanitation and municipal and local government law for those students who are chiefly interested in urban development.

